ENGINEERING NEWS-RECORD

A WEEKLY JOURNAL OF CIVIL ENGINEERING AND CONSTRUCTION

Volume 158

★

JANUARY-JUNE, 1957

McGRAW-HILL PUBLISHING CO., INC.
330 WEST 42nd ST., NEW YORK 36, N. Y.

A

Accidents, Elevator fall kills seven ... Mar. 28 22

Aeronautics

Airports
Capital City Airport, Lansing, Mich. paves taxiways and aprons, cuts project ... Jan. 10 76
Colombia's Bogota Airport will be ready by late 1958 ... Feb. 28 26
Columbus, Ohio, bid dispute halts project ... June 6 25
Dallas, Tex. Love Field to get airport with passenger appeal ... Mar. 21 (E) *29
Detroit Wayne Major Airport paves taxiways and apron, cuts project ... Mar. 21 128
Federal funds give cities a chance to fast start on 1958 projects ... Apr. 11 26
Fort Worth, Carter Field runway will be lengthened for jets ... Mar. 7 33
Ft. Worth, Texas, Airport extends instrument runway, cuts project ... May 2 78
Grand Forks, N.D., air base to get concrete runway ... Apr. 4 26
Greenbelt building code for better Trans-Arctic bases, Wright, Bugman quoted ... Feb. 7 (E) *30
Jet age won't explode U. S. airports ... May 23 (E) *32
Langley Air Force Base paving completed by swamp land, project ... Apr. 18 124
Long Mc. Air Force Base for jet test strategic bombers Feb. 28 (E) *30
Wrong railroad. Correction, H. S. Walker, P. Barry ... Apr. 11 10
Nashville Airport to be completed in 1958 ... June 13 *92
Newark Airport radar dome will cap new control tower ... Apr. 11 30
New York's Idlewild Airport building today for tomorrow's airport ... May 2 (E) *30
New York International Airport will be an umbrella-like structure ... Apr. 11 *25
New York International Airport will have a 320 room hotel ... Feb. 21 *26
Portsmouth, N. H. Air Force Base for biggest strategic bombers ... Feb. 28 (E) *19
Wrong railroad. Correction, H. S. Walker, P. Barry ... Apr. 11 10
Stapleton Airfield at Denver to get $30-million expansion ... Feb. 14 24
Texas' executive airport construction work begins ... Apr. 4 *26
Tokyo's airport will be remodeled to handle jets ... May 30 84

Hangars
Air Force has developed a maintenance dock to fit contours of big planes ... Apr. 25 *27
Kansas City's Mid-Continent International Airport precedent setting hangar now occupied ... Apr. 18 *29
Larson Air Force Base, Wash. undulated thin-shell hangar roof spans big bays ... Mar. 7 (E) *41
Newark Airport's new hangar will have 140 ft. cantilevered trusses ... Mar. 28 *26
San Francisco airport—pile load test during an earthquake ... Apr. 25 *28
San Francisco International Airport, TWA starts jet hangar ... May 30 *28
San Francisco International Airport will have largest cantilever to support roof hangar ... Feb. 21 *16

Heliports
Denver's tallest building will have roof heliport ... May 30 *28
Long Beach, Calif., Douglas' giant aircraft plant ... May 9 (E) *23
Plattsburg Air Force Base, N. Y. ... Housing project slated ... June 27 31
Rosecrans, Feb. 7, Joseph, Mo. ... Field enlarged, first prop to jet ... June 27 105
Sonic boom climaxes report ... Apr. 25 28

Air Conditioning

Canada—trend has been ... June 6 27
Chicago reveals need of wasted cooling water for air conditioning units ... Apr. 4 33
Dallas, Tex. Love Field—airport with passenger appeal features air conditioned piers ... Mar. 21 (E) *29
How much does it cost to heat and cool homes? ... June 20 46
Window units are fed air through supply duct in new Seagram building ... June 13 (E) *45

Air Pollution

Air pollution instruments turn to radioactive gases for detection ... June 27 28
Gary, Indiana launches one-year anti-pollution study ... Feb. 14 60
New York City proposes $22 million yearly to curb pollution ... Mar. 21 172
New York-New Jersey area to be studied by federal-state team ... Mar. 28 79

Aluminum

Australia studies plans for $1 billion program to become exporter ... June 27 32
FHA adopts the standards for aluminum-window makers ... Jan. 24 48
American Assn. of State Highway officials—Test road objectives approved ... June 20 25
American Concrete Institute—53rd annual convention gets report on progress on prestressing code ... Mar. 7 27
American Institute of Architects—AIA celebrates centennial ... Feb. 28 *120
Observes centennial ... May 23 *24
Pro and con on merits of the architect engineer (table) ... May 23 (E) *42
American Institute of Steel Construction—9th Annual Engineering Conference explores engineering advances ... June 6 28
American Road Builders Assn. Road Show—credit worries shadow road meeting ... Feb. 7 (E) *21
Road Show—dramatic collection of rabbles and shovels at $21 million Chicago Display ... Feb. 7 (E) *37
American Society of Beach Preservation Assn.—Ft. Lauderdale erosion gets spotlight at Asbury Park, N. J. Session ... June 13 88
American Society for Testing Materials—Adopts new reinforcement specs. at 60th Annual Meeting ... June 27 25
60th Annual Meeting — noteworthy papers ... June 27 26
American Society of Civil Engineers—Air Transport Div.—Transport contemporaries bear jet age won't obsolete U. S. airports ... May 23 (E) *23
Buffalo convention hears Seaway story told—in part ... June 13 (E) *25
Committee seeks standard for pipeline crossings ... Apr. 18 31
Honorary members ... June 27 27
Meeting hears challenge of river—and road work ... Feb. 28 26
American Waterworks Assn.—Delves into politics at Atlantic City meeting ... May 23 (E) *28
19th annual meeting told water demands must be met by unified efforts ... Feb. 14 29
Anderson, Robert A.—New treasury chief, same money policy ... June 13 (E) *165

Aqueducts

Old Croton Dam and Aqueduct after 114 years—it was built to last and did ... Jan. 24 (E) *35
San Diego, Calif. plans bond election for aqueduct ... Mar. 21 33

Arches

Precast barrel arch sections form the roof of a Calif. high school gym ... Jan. 31 (E) *45
Money isn't everything, L. F. Greene ... Mar. 21 44
Timber building at Farmingdale, L. I. had headroom increased by cutting ends of its roof-supporting arches and transferring the loads to steel frames, Alfred Zweig ... May 2 (E) *40
Two-hinged trussed arches at aircraft plant in Baltimore, E. W. Wolf ... Apr. 25 (E) *30
Undulated thin-shell hangar roof spans big bays at Larson Air Force Base, Wash. ... Mar. 7 (E) *41

Architects

AIA celebrates centennial ... Feb. 28 *120
Cardella, Felix—architect for Mexico City's umbrellas, W. G. Bowman, dubbed ... May 16 (E) *26
Construction industry profile (chart) ... Feb. 21 71
Estimating is for pros, Seymour Berger ... June 27 8
Pro and con on merits of the architect engineer (table) ... May 23 (E) *42
Associated Equipment Distributors—Meeting at Chicago in conjunction with the Road Show, credit is a big worry ... June 27 22
Associated General Contractors of America—Rogers, Lester C.—new president; Heldenfels, Fred W. Jr.—new vice-president ... Mar. 21 *30
38th annual meeting—Tighter price squeeze coming ... Mar. 21 (E) 23
Facts wrong, C. B. Roscoe ... May 16 15
Association for Applied Solar Energy—International design contest for solar-heated homes ... Apr. 25 28
Association of Highway Officials of the North Atlantic States—A regional look at road plans—annual meeting ... Mar. 7 23

Atomic Energy

Atomic sewage treatment is technically feasible ... June 27 101
Dresden A-plant due for construction in spring ... Jan. 3 *26
Dresden Nuclear Power station footings designed to hold a 190 ft. sphere ... June 6 *25
GE atom lab to feed PWR power ... June 6 *32
Great Britain awards contracts for three more nuclear plants ... Jan. 24 *176
Nuclear Congress 1957 ... Mar. 21 (E) 28
Nuclear congress will ponder power and wastes problems ... Jan. 10 24
Reactors called safe ... Apr. 4 135
U. S. agrees to help European A-power plans ... Feb. 28 *22
What's different about building atomic power plants? W. J. Grady ... Feb. 14 (E) *44

Aid for ums see Stadiums

Automation

IBEW looks ahead, sees automation maintenance ... Jan. 17 113
McGraw, E. H. & Co.—a cost system that pays off fast ... June 20 (E) *147
Ohio mechanizes highway design ... Mar. 14 (E) *37
Water plant features automatic control ... May 23 (E) *51
Automobile test track—the Michigan Proving Ground completed by Ford Co. ... May 23 (E) *26

Awards

Beaver awards to eleven in Los Angeles at annual session ... Jan. 24 48
Horatio Alger Award to John Wate ... May 23 *84
Merit awards for high school graduates upped by industry ... May 9 32
1957 Moles Awards to Lou Perini and Guy Atkinson ... Feb. 14 *24
Traffic Engineers Award is offered for research ... Apr. 18 26

B

Bach, Ira J.—Chicago's new planning commissioner ... Jan. 17 *73
Beach Protection see Shore Protection

Beams

AISC code is arbitrary, Louis Baton ... June 20 10
Concreted tension flange saves steel ... June 6 *82
Deeper rolled beams needed, D. R. Goodkind ... Jan. 3 6
Deeper rolled beams needed—Rolled-beam depths, F. D. Steiner ... Feb. 7 8
Failures at inflection points, D. H. Lee ... June 27 8
Inflection-point stresses, I. E. Morris ... Jan. 3 6
Plastic design theory, F. S. Merritt (charts) ... Apr. 4 (E) 38
Plastic design to the fore ... Apr. 4 *168
Prestressed beams are post-tensioned for Terminal City's bridges at Idlewild ... May 2 (E) *30
Prestressed beams span 100 feet to support roof at Lafayette market building in Baltimore ... Mar. 14 *26
Prestressed concrete beams protected from near zero temperatures at Calgary, Alberta plant ... Feb. 14 *55
Rubber seats for prestressed beams, J. R. Graves ... May 16 (E) *67
Steel and concrete beams used in novel framing for Los Angeles Courthouse ... Apr. 11 (E) *32
Twenty tons of beams go up in one piece ... Apr. 25 *29
Two-story frame requires less steel when plastic design is used successfully, Prof. D. T. Wright ... Apr. 11 (E) *59
Bertram, General Paul D.—To leave Engineers ... June 20 *99
Black, Eugene R.—President of the World Bank ... Jan. 17 *23

Blasting

Cross Bronx Expressway—blasting in layers because the rock cuts to be made are deep (map), May 16 (E) *48
Jobs proved blasting agent tried on Capitol Hill work ... June 20 89
Salt Lake fill, a big blasting job (map) ... June 6 (E) *24

Bolts

Anchor bolts are problem, H. K. Lee ... May 30 *10
Seagram Building in N.Y.C. is the tallest office building ever erected with high strength bolts ... June 13 (E) *15

Bonds

Chicago voters approve 23 issues for public works program ... June 20 *10
Chicago voters will be asked to approve $112 million worth of news bond issues to cover public works improvements ... Apr. 25 (E) *15
Connecticut sells turnpike bonds ... Apr. 11 141
Detroit, Mich. public works projects voted down ... Apr. 11 145
Federal help sought for sale of local bond issues ... Jan. 10 101
Kentucky's $100 million road-bond issue awaits test ruling ... Jan. 31 74
Memphis, Tenn. check for biggest electric revenue bond sale ... Feb. 7 *132

* Illustrated; e, editorials; (E) Articles over a page

Milwaukee plans sale of $22 million bonds ..... Apr 11 142
Phoenix bond issue public works planned without tax increase June 13 174
Sacramento, Calif. redevelopment pays its way (map) ..... Apr 25 (F) *30
San Diego, Calif plans bond election for aqueduct ..... Mar 21 33
Wayne County, Detroit, Road Comm. to issue $11.5 million in bonds ..... June 27 136

Book Reviews

Air conditioning-refrigerating data book (Applications volume) 6th ed. W. R. Woolrich, Editor-in-Chief ..... May 16 72
American civil engineering practice Three vol ed. by R. W. Abbett ..... Jan 17 80
Biological treatment of sewage and industrial wastes McCabe & Eckenfelder Jr. ..... Feb 14 72
Building cost manual ..... Mar 21 122
Composition and properties of concrete Troxell, Davis & Kelly ..... May 16 76
Computing with desk calculators W. W. Varner ..... June 20 96
Engineering structural failures Rolt Hammond ..... Feb 14 72
Easter, Easter Eckert & Jones ..... Apr 4 109
French contractor equipment building, civil engineering, mechanical handling—A special issue of Travaux ..... Jan 17 80
Handbook of rigging 2 ed. W. E. Rossnagel ..... June 6 110
Heating ventilating and air conditioning guide 35th ed. ..... Apr 18 118
Irrigation engineering—Vol. II Projects, conduits and structures J. E. Bonk ..... May 30 76
Just compensation H. J. Kaltenbach ..... June 6 108
Landslides in clays Alexandre Collin, 1846 ..... May 9 104
Mathematics and computers Stibitz & Larrive ..... Apr 4 109
Practical accounting and cost keeping for contractors 3 ed. F. R. Walker ..... June 6 108
Practical road construction J. H. Arnison ..... May 30 76
Principles of engineering geology and geotechnics Krynine & Judd ..... June 27 86
Principles of transportation Mossman & Morton ..... Mar 21 122
Principles of turbomachinery D. G. Shepard ..... Jan 17 80
Sewage treatment 2nd ed Imhoff & Fair ..... Mar 21 124
Sewerage and sewage disposal E. S. Escritt ..... Apr 4 109
Standard plans for highway bridge superstructures Bureau of Public Roads ..... Jan 24 45
Structures Pier Luig. Nervi ..... May 9 72
Supplementary notes on structural planning and design Problems and solutions from past New York P. E. license examinations J. N. DeSerio ..... Jan 17 80
Technical data on plastics Manufacturing Chemists' Association Apr 25 101
Timber design and construction handbook Timber Engineering Co. Jan 24 212
Bowers, Richard A.—SeaBee officer gets award for Antarctic construction ..... June 13 *105
Breakwaters—Tetrapods—four legs against the sea; first installation in U. S. underway at Crescent City, Calif. and in Kahului Harbor, Hawaii ..... Mar 21 (F) *46

Bridge Accidents and Failures

Tay Bridge—A disaster to remember ..... Jan 17 e128
Tay Bridge probers wrong Sir O. Williams ..... Mar 21 10
Windstorm speeds up Toledo expressway plans ..... May 16 *23

Bridge Construction

Alaska—Rail pile information R. J. DeLaHunt ..... Feb 21 *8
All-welded bridges—survey reveals that 22 states weld bridges ..... Jan 10 *28
Beam plate and girder bridge over Mississippi River (unit prices) ..... Jan 3 61
California highway bridge erection dodges floods ..... Apr 4 *82
California highway plan calls for 51 prestressed bridges ..... Mar 21 42
Carquinez Bridge—hydraulic jets sink caissons ..... Apr 18 (F) *28
Connecticut Turnpike's Quinnipiac River crossing at New Haven—superstructure goes on "croquet wicket" piers ..... June 6 *28
Contracts booming (chart) ..... Apr 18 176
Corpus Christi Ship Channel bridge, Tex. will get additional spans (unit prices) ..... Mar 14 88
County "rolls its own" in prestressed bridge design (map) ..... June 13 (F) *37
James River Bridge, Richmond, Va. columns built up with free-standing forms ..... Mar 21 *92
Mackinac's record cables spun for 78 days ..... Mar 28 (F) *35
New York bridge projects run 100% over estimates ..... May 16 23
New York's Long Island RR bridge constructed and connected to make room for 4 lane highway without serious disruption of train schedules ..... Mar 7 (F) *16
Norfolk bridge-tunnel costs up $2 million ..... May 30 104
Pawtucket, R. I. Seekonk River steel-girder bridge cost exceeds estimate by 44% (unit prices) ..... Feb 14 78
Silt swallows up half the cost of Connecticut Turnpike Bridge May 30 (F) *46
Walt Whitman Bridge between Philadelphia and Gloucester City, N. J. is key to redevelopment of two cities ..... Apr 4 (F) *52
Will Rogers Turnpike bridges built fast D. E. Stevens ..... Jan 3 (F) *32

Bridge Design

All welded bridges survey reveals that 22 states weld bridges Jan 10 *28
Bascule bridge spanning the Cuyahoga River at Cleveland comes close to record ..... Feb 28 *23
BHR publishes standard for road bridges—Penna. Highway Dept. completed similar publication ..... Jan 24 45
BPR standards—credit omitted Myron Lepakaluk ..... Mar 21 10
Europe's longest span suspension bridge on reinforced concrete towers is under construction across Seine River, France (map) ..... Jan 10 *28
Florida prestressed highway bridge bid price very low ..... June 13 27
Open-spandrel bridge built on skew near Cleveland ..... Feb 21 *15
Prestressed beams for Texas bridge are seated on neoprene rubber bearing plates J. R. Graves May 16 (F) *67
Prestressed bridge designed by Suffolk County across Long Island intracoastal waterway (map) June 13 (F) *37
Should bridges be wider? ..... Jan 17 e128
Structural steel bridges built fast on Will Rogers Turnpike, Okla. D. E. Stevens ..... Jan 3 (F) *32
Suspension span of 1,150 ft for St. Lawrence River bridge between Ogdensburg, N. Y. and Prescott, Ont. Mar. 14 *24
Suspension span of radically different design across Lake Maracaibo, Venezuela (map) ..... June 13 *28
Swing truss bridge in swampy area, Louisiana (unit prices) ..... Apr 25 102
Walt Whitman Bridge between Philadelphia and Gloucester City, N. J. is world's eighth largest suspension span ..... Apr 4 (F) *52

Bridge Renewals and Repairs

Chicago bridge split for repairs June 6 *29
New Mexico bridge repair (unit prices) May 16 119
New York to modernize Harlem River crossing ..... Mar 21 33
Pennsylvania bridges damaged by hurricane will be repaired by summer ..... Apr 4 28

Bridges

Australia
Narrows Bridge, at Perth Australia will be 1,100-ft long, five-span continuous structure of prestressed concrete ..... Jan 3 *56
Brazil
Viaduto das Almas bridge on Rio-Belo Horizonte Highway is supported on stilt-like concrete columns ..... Apr 11 *78
Buffalo Bayou, twin bridges, Tex. Houston, Tex. takes welded girder span record ..... Jan 24 *48
California
Napa Hills highway bridge erection dodges floods ..... Apr 4 *82
San Francisco—bridges key features in water-complicated transit problems ..... June 27 (F) *32
Canada
Longest plate-girder bridge over the Fraser River in Vancouver, B. C. Feb 28 *53
Carquinez Bridge, Calif.
Hydraulic jets sink caissons ..... Apr 18 (F) *28
Chicago
Michigan Avenue Bridge split for repairs ..... June 6 *29
China
Yangtze River span takes shape ..... May 9 *73
Cleveland
P & O bascule bridge spanning the Cuyahoga River comes close to record ..... Feb 28 *23
Wilson Mills Road open-spandrel bridge built on skew ..... Feb 21 *45
Colombia
Bogota plans 470 ft prestressed bridge ..... May 9 *73
Connecticut
Turnpike bridge over the West River New Haven mud makes bridge costly ..... May 30 (F) *46
Delaware River
$6 million construction authorized between Yardley, Pa. and Wilburtha N. J. ..... Apr 11 23
Fire Island Bridge
Suffolk County builds Narrows Bay bridge (map) ..... June 13 (F) *37
France
Bordeaux will get first new bridge since 1821 ..... June 6 102
Seine River suspension bridge on concrete towers (map) ..... Jan 10 *28
India
Bridging Ganges is top rank project ..... May 30 *61
Italy
Santa Trinita Bridge at Florence being rebuilt Ponte Santa Trinita J. J. Callaghan ..... Jan 31 10
Louisiana
Bayou Lacassine swing truss bridge in swampy area (unit prices) ..... Apr 25 102
Michigan
Mackinac's record cables spun ..... Mar 28 (F) *35
Minnesota
Beam plate and girder bridge over Mississippi River (unit prices) ..... Jan 3 61
Missouri River
Forest City, S. D.—big span gets approval from Corps ..... Apr 11 24
New York City
Bridge projects run 100% over estimates ..... May 16 23
New York State
Thruway viaduct sets welded-girder record—Welded girders in Europe G. R. Thalheimer ..... Feb 7 8
Oregon and Arkansas interstate bridges boosted over their early problems ..... June 6 30
Pennsylvania
Hurricane damaged bridges will be repaired by summer ..... Apr 4 28
Walt Whitman Bridge between Philadelphia and Gloucester City, N. J. is key to redevelopment of two cities ..... Apr 4 (F) *52
Name added C. S. Whitney ..... May 16 10
St. Lawrence River
U. S.-Canada bridge between Ogdensburg, N. Y. and Prescott, Ont. at bid stage ..... Mar 14 *24
San Francisco, Calif.
Toll bridge studied to parallel Golden Gate ..... Jan 31 28
San Francisco-Oakland Bay Bridge, Calif.
Capacity to be raised ..... May 9 28
Seattle, Wash.
Seattle bridge questioned H. M. Homer ..... Apr 4 10
Scotland
Firth of Tay Bridge—A disaster to remember ..... Jan 17 e128
South Carolina
Truss swing span will replace old bridge at Johns Island (unit prices) ..... Jan 10 78
Texas
Corpus Christi Ship Channel bridge will get additional spans (unit prices) ..... Mar 14 88
Topock, Ariz.
Two new pipeline bridges across the Colorado River ..... Apr 4 *27
Venezuela
Lake Maracaibo bridge design beat U. S. firms bidding for job (map) ..... June 13 *28
Summer start scheduled for Lake Maracaibo Bridge ..... Feb 21 236
Virginia
Chesapeake crossing faces political problems ..... Feb 28 29
Washington State
Financial-feasibility study of proposed second floating bridge across Lake Washington, east of Seattle ..... May 2 24
Brown, Brig. Gen. C. Pratt—UCAF engineers do a big job ..... May 2 (F) *46
Brunn, Per—Hydraulics expert heads Coastal engineering course ..... Apr 18 *103
Brush control—Missouri River levee riprap is kept free of growth by spraying ..... Apr 25 *88

Building Accidents and Failures

Brazil—Rio de Janerio building collapse laid to careless undermining ..... May 9 75
Deck structure fault J. F. Murnpet ..... June 20 8

Building Construction

Aldon system mass-produces houses on site ..... Apr 18 (F) *67
All-concrete food terminal for Southern Railway ..... June 20 (F) *67
All concrete warehouse for AF near Sacramento, Calif. ..... May 30 (F) *42
Ancient building rebuilt to house museum in Athens, Greece D. P. Barnett ..... Mar 14 (F) *76
Another big year of federal spending (table) ..... Jan 10 21
Atlanta, Ga.—on-the-spot report ..... Mar 28 113
Big changes in buildings over last 100 years ..... May 23 (F) *33
Boom stretches into 1957 (charts) ..... Jan 3 21

* Illustrated; e, editorials; (F) Articles over a page

Building houses to the "metric system" in Korea, Ohio ..... Jan 17 (F) *73
Correction J. E. K. Kaylor ..... Feb 14 10
Building Research Institute offers some answers on how to build better ..... Apr 18 27
California maps extensive building starts for 1957 ..... Jan 3 72
Charleston, W. Va.—on on the spot report ..... May 9 139
Chicago, Ill.—Inland Steel builds 19-story office building ..... Jan 10 (F) *43
Chicago, Ill.—on the spot report ..... Mar 14 119
Columbus, Ohio—on the spot report ..... Jan 3 78
Commercial building begins new boom (chart) ..... May 23 111
Contracts lag, others boom ..... Mar 7 (F) 35
Costs
Builders list ways to cut house costs ..... May 30 28
Industrial boom accents rise in costs (charts) ..... Jan 3 77
School costs per square foot in New York State (unit prices) ..... May 2 78
Where the school dollar goes (with schools in North Haven Conn. show a 26% rise in two years (tables) ..... Apr 25 (F) *83
Daisan Marunouchi Building, Tokyo, Japan—steel-concrete members form frame ..... June 20 *90
Dayton, Ohio—research building—cellular concrete floors wired easily ..... Apr 18 (F) *62
Denver, Colo.—on the spot report ..... Apr 11 142
Detroit, Mich.—on the spot report ..... June 13 *153
Engineering and construction advances pace this $125 million city-within-a-city rising in Dallas, Tex. ..... Mar 28 (F) *45
Factories on the way to automation—big changes in buildings over last 100 years ..... May 23 (F) *73
Harlem Hospital, N. Y.—pumps and weight keep hospital out of hot water ..... June 20 (F) *46
Harrisburg, Pa.—an on the spot report ..... Mar 21 *168
Industrial building boom to continue (table) ..... Mar 21 171
Industrial building still strong, NCA says ..... Jan 17 109
Jackson, Miss.—an on the spot report ..... May 30 106
Kansas City—on the spot report ..... Jan 24 263
Laboratory for Monsanto Chemical built almost completely of plastics ..... June 20 (F) *56
An architect's view of plastics H. H. Bradley ..... June 20 58
A contractor's view of plastics W. H. Cunliff ..... June 20 59
Lease-purchase programs suspended ..... Feb 21 *43
Line-of-duty criticism by officials held libel free ..... June 20 130
Little Rock, Ark.—on the spot report ..... Feb 21 259
Milwaukee, Wis.—an on the spot report ..... May 23 116
More space needed to build today's jets, Douglas' giant aircraft plant has a million square feet of floor space ..... May 9 (F) *36
Nashville, Tenn.—on the spot report ..... Jan 31 74
New York City—14 story apartment house concreting completed in 51 days ..... June 27 *39
New York skyline altered by office-building boom ..... Jan 17 (F) *40
Oklahoma City, Okla.—on the spot report ..... Feb 7 *139
Pittsburgh—on the spot report ..... Mar 7 141
Plastic design makes possible savings in structural steel F. S. Merritt (charts) ..... Apr 4 (F) 38
Plastic design to the fore ..... Apr 4 *168
Plastic house erected with large sandwich panels forecasts things to come ..... June 20 (F) *28
Providence, R. I.—on the spot report ..... Feb 14 *100
Reproducing history ..... June 20 *168
San Diego—on the spot report ..... Apr 25 132
Seattle, Wash.—on the spot report ..... Jan 17 *168
Steel-frame courthouse for Los Angeles ..... Apr 11 (F) *52
Tallest concrete building in U. S.—Chicago apartment building ..... June 27 (F) *39
Techniques and trends in buildings and housing ..... Feb 21 (F) *166
Trenton, N. J.—on the spot report ..... Feb 28 98
Tulsa, Okla.—on the spot report ..... Jan 10 103
U. S. Air Force Academy, Colorado Springs, Colo.—steel (unit prices) ..... Feb 14 78
Wilmington, Del.—on the spot report ..... Apr 4 149
Wingate Junior College, N. C.—lift-slabs connected to precast columns ..... June 27 (F) *69
World Bank operations are building a better world—at a profit (map) ..... Jan 17 (F) *21

Building Design

Air Force Academy how foundations were designed Brown & Teng ..... Apr 18 (F) *50
Aircraft plant in Fairmont designed for unusually heavy loads E. W. Wolf ..... Apr 25 (F) *36
All concrete warehouse for the AF near Sacramento, Calif. ..... May 30 (F) *42
Aluminum mesh to face Detroit office building ..... May 30 *29
Arizona capitol dispute over design delays rebuilding ..... Apr 11 22
Bad design blamed for fire loss ..... May 2 69
Big changes in buildings over last two years ..... May 23 (F) *33
Consulting engineers build new office building of their own design ..... May 30 (F) *32
Cut-up section form tapered frames for enlarged outdoor deck of hotel at Sausalito, Calif. ..... May 9 *36
Daisan Marunouchi Building, Tokyo, Japan—steel-concrete members form frame ..... June 20 *90
Design against fire spread ..... May 2 e132
Earthquake resistance
Douglas giant aircraft plant—big columns are needed to resist horizontal forces ..... May 9 (F) *53
Federal building design approved ..... Jan 10 *104
Fire Protection—NFPA manager states nursing homes are No. 1 fire traps ..... June 6 27
Forming a thin-shell roof for a Seattle classroom building ..... May 9 (F) *45
450-ft concrete building planned for Melbourne, Australia ..... Mar 21 66
Gangers fit contours of big planes ..... Apr 25 *37
How is shear distributed? Murray Rubin ..... May 23 *8
Los Angeles, Calif. apartment balconies offset for headroom ..... Apr 18 *31
Mental hospital design—use of new drugs may affect architectural requirements ..... May 30 28
Museum to be built near National Park Service near Vernal, Utah, will have bones of dinosaurs as one wall ..... Feb 14 24
New York garage will satisfy strict code ..... Apr 4 *26
Paired classrooms, new concept in school design for New Rochelle, N. Y. ..... May 9 *32
Pittsburgh office building a showcase for steel curtain walls, pivoted windows are included in panels ..... Feb 28 (F) *49
Plastic design for a two story building in Kingston, Ont. Prof. D. T. Wright ..... Apr 11 (F) *59
Ne steel saved E. Guilford ..... May 16 12
Plastic design to the fore ..... Apr 4 *168
Plastic house erected with large sandwich panels forecasts things to come ..... June 20 (F) *28
Plastic house passes load tests ..... Feb 14 *25
Seagram Building in N. Y. C. has glass and bronze exterior, bolted steel framing with diagonal wind bracing and new type lighting and air conditioning ..... June 13 (F) *45
Shell Oil Corp. building in Tulsa, Okla. features sun canopies over windows ..... Mar 21 *26
Steel-frame courthouse for Los Angeles ..... Apr 11 (F) *52
Stratford, Ont., Canada—conical folded plate form concrete roof supplants tent for summer theater ..... June 27 (F) *90
Structural steel buildings by the plastic theory F. S. Merritt (charts) ..... Apr 4 (F) 38
Tallest concrete building in U. S.—Chicago apartment building ..... June 27 (F) *39
Thin-shelled concrete domes—new design concept for church roofs ..... June 20 (F) *43
Twenty tons of framing were erected in one piece for 8 story welded-frame office building in New York ..... Apr 22 *29
Umbrella-like structure with elliptical suspended roof for N. Y. International airport ..... Apr 11 *25
Umbrellas over Mexico City's new buildings W. G. Bowman (table) ..... May 16 (F) *36
Welded frame of a Ft. Worth, Texas office building redesigned with aluminum walls, is world's tallest welded building F. S. Adams ..... May 2 (F) *44
Welded structural steel, sheathed in stainless steel gives Inland Steel's office building in Chicago a waterlike appearance ..... Jan 10 (F) *43
Williamsburg guards its character ..... Apr 25 (F) *34
Wind resistant
Knee braces stiffen Canada House N.Y.C. office building walls ..... May 9 *26
New standard wind-load requirement J. P. Thompson (map & tables) ..... Feb 14 (F) 33
New standard wind-load requirement —Wind standard unimproved G. N. Hyland ..... June 13 8
Thompson's reply ..... June 13 12
Tornado comes close to Dallas business area ..... Apr. 11 25
Building Design see also Beams; Concrete; Girders; Roofs and Roofing

Building Laws and Regulations

AISC code is arbitrary, Lewis Bal ..... June 20 10
ASTM standards revised ..... Mar 14 23
Court rules "lift slab" is in public domain ..... Jan 3 25
N. C. legislature will be asked to update laws ..... Jan 3 26
Revised state code ready for Connecticut builders ..... Mar 7 35
Building Research Institute Annual meeting offers some answers on how to build better ..... Apr 18 27

Buildings

AIA centennial progress in building ..... May 23 (F) *33
Annapolis, Md.
U. S. Naval Academy field house to be dedicated ..... May 30 *25
Argentina
Buenos Aires' Atlas building, a 42-story concrete skyscraper planned by the Argentine government ..... Feb 7 *89
Buenos Aires' 42-story Atlas Building nears completion ..... Mar 21 *61
Miramar will get concrete co-op 40 stories high ..... Feb 7 *89
Atlanta, Ga.
Georgia Road Dept. gets new home ..... Jan 24 *32
Atwater, Calif.
Roof shell without falsework on school ..... Mar 14 (F) *16
Australia
Sydney operahouse will get roof structure of interlocking thin-shell concrete vaults ..... May 30 *62
Baltimore, Md.
Aircraft plant's frame is also test rack E. W. Wolf ..... Apr 25 (F) *38
Mercy Hospital plans $8 million complex ..... Mar 14 *23
Belgium
Chalerol hospital uses new type of composite beams ..... June 6 *82
Peaceful use of the atom: building theme of 1958 fair ..... Feb 21 *234
Bloomfield Township, Mich.
Steeple placed by helicopter ..... May 23 *28
Boston, Mass.
Prudential Insurance Co. maps $100 million center ..... Feb 14 *104
Bozeman, Mont.
State College's field house biggest timber-framed dome ever built? Progress roof ..... Jan 10 (F) *32
Buffalo, N. Y.
20-story office building construction to start this fall ..... Mar 28 27
Canada
Jacks raise framework for tall silos ..... May 2 *63
Kingston, Ont. two story building used plastic design successfully Prof. D. T. Wright ..... Apr 11 (F) *59
Chattanooga, Tenn.
All-concrete food terminal for Southern Railway ..... June 20 (F) *67
Chicago, Ill.
Apartment building—tallest concrete building in U. S. ..... June 27 (F) *39
Inland Steel builds a new home ..... Jan 10 (F) *43
Cincinnati, Ohio
Skyscraper planned ..... May 9 *141
Colorado Springs, Colo.
How foundations for the Air Force Academy were designed Brown & Teng ..... Apr 18 (F) *50
U. S. Air Force Academy steel (unit prices) ..... Feb 14 78
Cuba
Habana Hilton, 31 level hotel ..... Feb 28 *36
Dallas, Tex.
GSA receives site bids for proposed office building ..... Feb 14 23
Daly City, Calif.
Precast arches form gym roof ..... Jan 31 (F) *43
"Money isn't everthing" L. F. Greene ..... Mar 21 14
Dayton, Ohio
Cellular concrete floors for research building wired easily ..Apr 18 (F) *62
Denver, Colo.
Tallest building will have roof heliport ..... May 30 *28
Detroit, Mich.
Aluminum mesh to face office building ..... May 30 *29
Downeyland, Calif.
Plastic house erected with large-sandwich panels forecasts things to come ..... June 20 (F) *28
Emmitsburg, Md.
Parochial school—package includes financing ..... Feb 28 (F) *96
Farmingdale, L. I.
More height without raising the roof Alfred Zweig ..... May 2 (F) *40
Ft. Worth, Texas
World's tallest welded building F. S. Adams ..... May 2 (F) *44
Franklin Park, Ill.
Warehouse walls made of four materials ..... Mar 21 *32

* Illustrated. e, editorials. (F) Articles over a page

Gary, Ind.
Standardized schoolhouse package includes financing ..... Feb 28 (F) *86
Greece
Ancient building rebuilt to house Greek museum in Athens. D. F. Barnett ..... Mar 14 (F) *76
Largest hotel planned for Athens ..... Mar 7 66
Hawaii
Roof lounge to revolve atop 14 story building in Honolulu ..... June 13 *94
10 story Honolulu hotel will be one room thick ..... June 13 93
India
Museum for cultural center in Ahmedabad on concrete stilts. May 16 *86
Johnstown, Pa.
Radiator firm plans research center ..... Jan. 31 *27
Kansas City, Mo.
Black & Veatch's new office building ..... May 30 (F) *32
Langley, Va.
Design approved of $46 million CIA headquarters building ..... May 30 *109
London, England
Tallest office building to be erected ..... Apr. 18 88
Long Beach, Calif.
Aircraft assembly plant for Douglas DC-8 jet ..... May 9 (F) *53
Los Angeles, Calif.
Aldon system mass-produces houses on site ..... Apr. 18 (F) *67
Apartment balconies offset for headroom ..... Apr. 18 *81
Novel framing for a courthouse ..... Apr. 11 (F) *52
Tidewater Oil will begin construction of headquarters building ..... Apr. 25 28
Mexico
Umbrellas over Mexico City's new buildings. W. G. Bowman (table) ..... May 16 (F) *86
Miami Beach, Fla.
Blue-green porcelain-enameled steel encloses Federal Savings & Loan Assn. Building ..... June 6 *30
New Orleans, La.
New city hall dedicated ..... May 30 *22
Tulane University dormitory will have prefab walls with built-in furniture ..... Mar. 28 30
New Rochelle, N. Y.
Senior high school will have paired classrooms ..... May 9 *32
New York City
Concreting for 14 story apartment house completed in 51 days ..... June 27 *29
Deering Milliken Co's 8 story welded-frame office building now going up ..... Apr. 25 *29
Design of midtown garage will satisfy strict code ..... Apr. 4 *26
5th Avenue office building has world's largest aluminum curtain wall ..... June 6 *30
Harlem Hospital jumps and weight keep hospital out of hot water ..... June 20 (F) *46
International Airport building will be an umbrella-like structure ..... Apr. 11 *25
Knee braces stiffen walls of Canada House ..... May 9 *26
Light-concrete building sets 254-ft height mark ..... Jan. 31 *27
Massive office building started in downtown financial district ..... Mar. 14 *105
New York International Airport will have a 320 room hotel ..... Feb. 21 *50
Office-building boom alters skyline ..... Jan. 17 (F) *40
Seagram Building, a skyscraper crammed with innovations ..... June 13 (F) *45
Tallest lightweight concrete building under construction — Skyscraper built with shale. W. W. Karl ..... Jan. 3 6
Tallest lightweight building under construction — Wrong consultant named. Victor Mayper ..... Jan. 3 12
North Haven, Conn.
Twin schools show a 26% price rise in two years (tables) ..... Apr. 25 (F) *65
Oklahoma City, Okla.
New design concept for church roofs ..... June 20 (F) *42
Ottawa, Canada
Embassy completed—an old Russian custom—even in Canada. Feb. 14 *22
Peoria, Ill.
Caterpillar plans new engine plant ..... Jan. 24 *261
Pittsburgh
U. S. Steel's office building is a showcase for steel curtain walls ..... Feb. 28 (F) *49
Too much fresh air. Correction ..... May 9 12
St. Louis, Mo.
Laboratory for Monsanto Chemical built almost completely of plastics ..... June 20 (F) *56
An architect's view of plastics. R. H. Bradley ..... June 20 58
A contractors' view of plastics. W. F. Cunliff ..... June 20 59
Sausalito, Calif.
Curved sections form tapered frames for enlarged outdoor deck of hotel ..... May 9 *80
Seattle, Wash.
Forming a thin-shell roof for a classroom building ..... May 9 (F) *42
21-story office building to be built ..... June 27 *135
Singapore
Orient's tallest building is the new 19-story Asia Insurance Building ..... Jan. 31 *56
Stratford, Ont., Canada
Conical folded-plate form concrete roof supplants tent for summer theater ..... June 27 (F) *90
Tacoma, Wash.
New plant erected over old building ..... Apr. 4 *24
Tokyo, Japan
Steel-concrete members form building frame for Daisan Matsushita Building ..... June 20 *90
Tulsa, Okla.
Shell of Coca Cola building features sun canopies over windows ..... Mar. 21 *26
Vernal, Utah
Museum to be built by National Park Service will have bones of dinosaurs as one wall ..... Feb. 14 23
Washington, D. C.
Bids on huge federal building ..... May 2 28
Cultural center proposed ..... Feb. 7 *27
Design approved for federal building ..... Jan. 10 *104
Office annex proposed for White House staff ..... Mar. 21 27
Williamsburg, Va.
New reception center. Apr. 25 (F) *54
Wingate, N. C.
Lift-slabs connected to precast columns at Wingate Junior College ..... June 27 (F) *69
Buildings see also Garages, Housing, Public Works, Warehouses

C

Cables and Cableways—Machinac's record cables span for 78 days ..... Mar. 28 (F) *55

Caissons

Big pipe caissons go 135 feet down at San Francisco shipyard ..... June 6 (F) *61
Hydraulic jets sink Carquinez caissons ..... Apr. 18 (F) *38
Open caissons go under air at 85 feet for Toledo Edison Co. Bay Shore Station ..... Mar. 28 (F) *63
Open caissons go under air at 85 feet—Credit omitted Neil O'Leary. June 6 14
Camera—Horizon camera can aid plane table surveys ..... May 23 *72
Canadian Construction Assn.—Tackles its problems — holdback of government construction work ..... Jan. 31 *25

Canals

Building materials are tested in Canada ..... Mar. 21 *89
India to start a project across the Dhanushkodi peninsula ..... June 6 102
Moselle canalization—new three-nation company ..... Mar. 7 62
Oklahoma City looks to a 200 mi. navigable canal (map) ..... Apr. 11 27
Panama Canal—Suez crisis revives talk of sea-level canal ..... Jan. 24 180
Russia to start Volga-Baltic Sea canal ..... June 6 102
Russians bring water to Kara-Kum Desert ..... Jan. 17 *60
St. Lawrence River — No duplication until needed ..... Jan. 10 e124
St. Lawrence Seaway's Long Sault Canal — excavation a low-bidder's nightmare (map) ..... June 13 31
Suez—a brilliant performance ..... May 16 e192
Suez Canal salvage—progress is faster than predicted ..... Jan. 17 27
Yuscay Canal—Peru's Quiroz Irrigation Project ..... Feb. 14 *65
Candela, Felix — Architect for Mexico City's umbrellas. W. G. Bowman (table) ..... May 16 (F) *86

Cement

Adequate cement supplies. W. A. Wecker ..... Jan. 31 9
Arkansas Louisiana Gas plans $15 million cement plant ..... Apr. 25 134
Tallest cement-storage silos in Canada built by use of hydraulic jack system ..... May 2 *63

Channels

Delaware River channel—before deepening begins jet probes will explore river bottom ..... Apr. 18 (F) *48
The English Channel tunnel ..... June 6 e196
Missouri River's Jackass Bend to get 1.7-mile-long cutoff ..... Jan. 31 *24
St. Lawrence Seaway and the Calumet-Sag Project's—groundbreaking ceremonies on the Rob-Lo Island in the Detroit River (map) ..... June 6 *31

Cities

Arizona capital despite cost does not desert Phoenix ..... Apr. 11 27
Atlanta, Ga.—on the spot report ..... May 2 133
Baltimore agency to carry out 12-year $500 million urban renewal program ..... Jan. 3 109
Boston, Mass.—How to cut through city's heart ..... Jan. 10 e36
Boston, Mass.—plans $200 million new development for Back Bay ..... Feb. 7 e164
Boston, Mass.—President of local bank could touch off boom in Boston's Back Bay ..... Jan. 3 24
Boston, Mass.—$20 million commercial development ..... Jan. 3 24
Charleston, W. Va.—an on the spot report ..... May 9 129
Chicago, Ill.—on the spot report ..... Mar. 14 110
Columbus becomes biggest city in Ohio in area ..... Feb. 14 *106
Columbus, Ohio—on the spot report ..... Jan. 3 28
Dallas, Tex.—City within a city rising; the Exchange Park project ..... Mar. 28 (F) *44
Dearborn, Mich.—Ford Estate of the late Henry Ford will be core of a new campus for the Univ. of Mich. ..... Jan. 10 *100
Denver, Colo.—on the spot report ..... Apr. 11 102
Detroit, Mich.—on the spot report ..... June 13 *123
Detroit, Mich., water supply planning ..... Apr. 4 24
Gary, Indiana, launches one-year air pollution study ..... Feb. 14 60
Harrisburg, Pa.—an on the spot report ..... Mar. 21 *108
Houston—an on the spot report ..... Apr. 18 124
Jackson, Miss.—an on-the-spot report ..... May 30 106
Kansas City—on-the-spot report ..... Jan. 24 262
Little Rock, Ark.—on-the-spot report ..... Feb. 21 288
Los Angeles Civic Center is being drastically revised as a result of construction of a new courthouse ..... Apr. 11 (F) *32
Mexico City—buildings with hyperbolic paraboloid roofs vie with skyscrapers in a city's startling transformation. W. G. Bowman (table). May 16 (F) *86
Milwaukee, Wis.—an on-the-spot report ..... May 23 116
Nashville, Tenn.—on-the-spot report ..... Jan. 31 74
Nation's cities report serious housing shortages ..... Jan. 31 27
New Orleans, Columbia, S. C. and Tacoma, Wash. get results of water, sewage studies ..... Mar. 28 30
New York City
Artery to get major improvement ..... Feb. 7 24
$80 million refuse disposal program passes halfway mark ..... Apr. 25 68
Grand Central area may get a $100 million office center ..... Jan. 31 *28
Moral: Don't change plans. May 23 e136
Office-building boom alters skyline ..... Jan. 17 (F) *40
Port of New York Authority spends $84 million and commits $50 million for airports, tunnel, piers in N. Y., N. J. ..... Mar. 28 106
To get federal funds for urban renewal ..... May 9 142
Oakland, Calif. votes $5 million for port, airport work ..... Mar. 7 34
Oklahoma City, Okla.—on-the-spot report ..... Feb. 7 *130
Philadelphia gets federal funds for urban renewal ..... Apr. 11 25
Philadelphia plans to end main street runs for transit ..... Jan. 24 48
Philadelphia, Pa. slum policy change ..... Mar. 14 112
Pittsburgh: on-the-spot report ..... Mar. 7 144
Providence, R. I. industrial development project ..... Feb. 7 27
Providence, R. I.—on-the-spot report ..... Feb. 14 *100
Sacramento, Calif. urban renewal program (map) ..... Apr. 25 (F) *30
San Diego, Calif.—on-the-spot report ..... Apr. 25 132
San Francisco—transit plus roads equal metropolitan movement ..... June 27 (F) *23
Seattle, Wash.—on-the-spot report ..... Jan. 17 *108
Seattle, Wash.—plan of metropolitan council would ease works financing ..... Jan. 3 27
Trenton, N. J.—on-the-spot report ..... Feb. 28 98

* Illustrated; e, editorials; (F) Articles over a page

Tulsa, Okla.—on the spot report ..... Jan. 10 103
Venezuela Caracas spiral market to wind around hill ..... Apr. 25 *33
Washington, D. C., cultural center planned ..... Feb. 7 *27
Williamsburg guards its character ..... Apr. 25 (F) *56
Wilmington, Del.—on the spot report ..... Apr. 4 119
Cities see also Planning
Clyde, George Dewey—Engineer becomes governor ..... Jan. 10 *56

Cofferdams
Carquinez Bridge? south pier requires cofferdam ..... Apr. 18 (F) *38
Connecticut Turnpike Bridge—cofferdam frames erected above ground ..... May 30 (F) *46
Leech Lake Dam, Minn.—cofferdam freak leads to dam failure (map) ..... June 13 27
Priest Rapids Dam's cofferdams will be built in three stages (map & table) ..... Jan. 3 (F) *36
St. Lawrence—Long Sault on the International Rapids tamed by cofferdam ..... May 2 *28

Columns
How is shear distributed? Murray Rubin ..... May 23 *8
James River Bridge, Richmond, Va., columns built up with free-standing forms ..... Mar. 21 *93
Lift-slabs connected to precast columns at Wingate Junior College, N. C. ..... June 27 (F) *69

Computers
Automatic linkage of photogrammetry and electronic computer go into operation as Ohio mechanizes highway design ..... Mar. 14 (F) *37
Electronic computing firm sells pipeline analysis ..... May 23 *68
Highway engineers reassured, computers will pace road program ..... Mar. 14 (F) 21
McGraw, E. H. & Co.—a cost system that pays off fast ..... June 20 (F) *147
New conquest for computers. June 20 e148
Where next for electronic computers? ..... Apr. 18 e196

Concrete
Aggregate
Expanded-shale aggregate used to reduce weight for N.Y.C.'s tallest lightweight concrete building ..... Jan. 31 *27
Four mixing plants producing 8,000 cu yd of concrete a day. H. H. McLean ..... May 9 (F) *47
Carquinez Bridge: novel concreting methods ..... Apr. 11 (F) *38
Cast-in-place concrete for pier wall—Fly ash data needed. C. E. Wuerpel ..... Feb. 14 10
Fly ash data supplied. F. L. Lincoln ..... Feb. 14 14
Columns for James River Bridge, Va., built up with free-standing forms ..... Mar. 21 *93
Concrete backfill for steel curbing at New York's Third Ave. Feb. 7 (F) *45
Concrete-block deepwater quay in the Belgian Congo ..... May 2 64
Conical folded-plate form concrete roof supplants tent for summer theater, Stratford, Ont. ..... June 27 (F) *30
Dams
How do U.S.-Swiss designs compare? W. H. Holmes (chart) ..... Mar. 28 (F) *32
Failures at the inflection points. D. H. Lee ..... June 27 8
Food terminal for Southern Railway built of prestressed and precast concrete ..... June 20 (F) *67
Forms
Jumbo moves thin shell forms ..... May 9 (F) *45
Hyperbolic paraboloid thin shell to roof reservoir ..... Apr. 11 (F) *51
Oslo symposium to cover concrete shell roofing ..... Mar. 7 64
Paving train lays two lanes on old road ..... Apr. 25 (F) *49
Pours made through pockets. June 13 *84
Precast
At Rota, Wharf is huge concrete blocks. H. W. Hunt (map) ..... Mar. 14 (F) *31
Dayton, Ohio, research building—cellular concrete floors wired easily ..... Apr. 18 (F) *62
Dovetailed precast panels are dam formwork ..... May 16 *81
Jackets of creosoted wood protect concrete piles. R. H. Mann ..... Feb. 14 (F) *41
Precast barrel arch sections form the roof of a Calif. high school gym ..... Jan. 31 (F) *45
Precast barrel arch — Money isn't everything. L. F. Greene. Mar. 21
Recalls 1915 precast job—Connecticut State Pier. G. L. Bilderbeck ..... Mar. 7 9
Schokbeton for Arctic construction. Waldo Bowman ..... Feb. 7 (F) *30
½ acres of roof panels for warehouse ..... May 30 (F) *42
Prestressed
ACI convention gets report on progress on prestressing code. Mar. 7 27
Bridge job—prefabrication speeds work (map) ..... June 13 (F) *37
California highway plan calls for 51 prestressed bridges ..... Mar. 21 42
Concreted tension flange saves steel ..... June 6 *32
Experimental highway in Pennsylvania ..... June 6 *66
Insulated covers protect prestressed concrete beams from near zero temperatures at Calgary, Alberta plant ..... Feb. 14 *35
On-site prestressing plant for Los Angeles warehouse cuts concrete building cost. H. R. Reuter ..... Apr. 18 (F) *38
On-site prestressing plant for Los Angeles warehouse cuts concrete building cost — Plant fabrication preferred. T. Y. Lin ..... June 13 8
Precast prestressed girders span 100 ft. to support roof of Baltimore market building ..... Mar. 14 *26
Rubber seats for prestressed beams. J. R. Graves ..... May 16 (F) *67
Program for world conference in S. F. includes experts from abroad ..... June 6 27
Twin record-size prestressed tanks for Reading, Pa. ..... June 20 (F) *68
Reinforced
Jointless concrete pavement studied ..... May 16 (F) *88
New way to build roof shell without falsework ..... Mar. 14 (F) *46
New York City—14 story apartment house concreting completed in 51 days ..... June 27 *29
Tallest concrete building in U. S.—Chicago apartment building ..... June 27 (F) *39
Wooden wharf conversed into a reinforced concrete structure ..... May 9 (F) *34
Sign of the season ..... May 9 e164
Slabs
Floor slabs for motor houses prefabricated in 12X14 ft. units ..... Jan. 17 *54
"Lift-slab" suit court rules name describes method ..... Jan. 3 25
Lift-slabs connected to precast columns at Wingate Junior College, Wingate, N. C. ..... June 27 (F) *69
Some intriguing questions. D. K. Gudgeon ..... Mar. 28 10
Vermiculite-treated slab gets 4 hour fire rating ..... Mar. 21 89
Tetrapods—four legs against the sea; first installation in U. S. underway at Crescent City, Calif. and in Kahului Harbor, Hawaii ..... Mar. 21 (F) *46
Thin-shelled concrete domes—new design concept for church roofs ..... June 20 (F) *42
Umbrella (hyperbolic paraboloid) roofs on Mexico City's new building. W. G. Bowman (table) ..... May 16 (F) *36
Undulated thin-shell hangar roof spans big bays at Larson Air Force Base, Wash. ..... Mar. 7 (F) *41
Who's right about winter concreting? A. J. Fox, Jr. ..... Mar. 7 32
Who's right about winter concreting? About winter concreting. William Clifford Morse ..... May 2 10
Who's right about winter concreting? "Who's right?" D. W. Cole ..... May 2 16
Why quit when it's cold? L. N. McClellan ..... Apr. 18 8

Construction
Another big year of federal spending (table) ..... Jan. 10 21
Atomic power plants—what's different about building them. W. J. Fraga ..... Feb. 14 (F) *44
Backlog of proposed heavy construction 1956 (table) ..... Feb. 21 64
CCA tackles its problems—holdback of government construction work ..... Jan. 31 *25
CSI aiming at better specifications ..... May 16 (F) *21
California mates extensive building starts for 1957 ..... Jan. 3 23
Canada prepares for phenomenal growth ..... Apr. 18 171
Canadian awards down—will construction boom regain its stride? (chart) ..... Apr. 25 131
Commercial building begins new boom (chart) ..... May 23 114
Congress hones budget ax but no big cuts are due (table) ..... May 9 27
Construction year ends on strong note (ta) ..... Jan. 10 102
Contractors doing $100,000 or more new construction per year increased from 1940-1956 (table) ..... June 6 174
Costs
Builders list ways to cut house costs ..... May 30 26
Construction costs inch higher again ..... Feb. 7 126
Construction cost rise continues (charts & tables) ..... Feb. 21 81
Government suspends lease-purchase programs ..... Feb. 21 *42
Indexes edge downward as lumber prices sag ..... Mar. 7 144
Indexes reach new high with cement, wage increases ..... Jan. 10 102
Industry told how to cut construction costs ..... Feb. 21 18
Moral: Don't change plans ..... May 23 e126
outlays for construction up 7% ..... Mar. 14 142
Industrial boom accents rise in costs (charts) ..... Jan. 3 27
St. Lawrence blues ..... June 13 e102
St. Lawrence Seaway excavation—Just how much has it really cost (map) ..... June 13 31
Still steady ..... Apr. 4 142
Wage hikes key factor as ENR index does but new high ..... May 9 158
Wage, lumber increases push costs upwards ..... Apr. 18 152
The economic climate ..... Mar. 28 e102
ENR report on the $100-billion road program—not only roads but all construction (charts & tables) ..... Jan. 24 (F) *29
ENR's 52nd annual report and forecast—construction boom flattens out (charts & tables) ..... Feb. 21 (F) 34
Export-Import Bank exports U. S. construction (charts & table) ..... June 13 (F) *33
False doctrine ..... June 6 e102
Federal budget analysis shows construction will take a big bite (table) ..... Jan. 24 (F) 16
Foreign work is challenge; panel of experts tell EJC meeting ..... Jan. 31 76
Greenland—build-up for better Trans-Arctic bases. Waldo Bowman (map) ..... Feb. 7 (F) *30
Industrial building boom to continue (table) ..... Mar. 21 *33
Industrial building still strong. N.Y. says ..... Jan. 17 109
Industry to maintain record spending (chart & table) ..... May 2 21
Korean reconstruction will be aided by six U. S. firms ..... Mar. 7 32
Legislation lags ..... Apr. 18 28
Maine sets three precedents in construction financing ..... June 13 170
1957 outlays will set a record, AGC says ..... Jan. 10 27
1957 outlook—trouble spots put blemish on '57 boom (table) ..... Jan. 17 104
On-the-spot reports see under **Cities**
State legislatures tackle construction ..... Feb. 14 (F) 23
This construction business ..... Mar. 28 e102
Tight money lowers the boom, but contractors have a record second half as the boom stretches into 1957 (charts) ..... Jan. 3 21
Utah Construction Co.'s formula for success: diversification. Barbara Lamb ..... Apr. 11 (F) *34
Who's right about winter concreting? "A. J. Fox, Jr. ..... Mar. 7 (F) *32
World Bank operations are building a better world—at a profit (map) ..... Jan. 17 (F) *25

Construction Equipment
Asphalt plant costs cut by electric heating elements. W. J. Smith ..... Jan. 17 *42
Block machine developed ..... Mar. 7 52
Construction machines moving to jobs at near record rate (chart) ..... Apr. 18 172
Conveyors
Salt Lake fill—conveyors play a big part (map) ..... June 6 (F) *24
Cranes
Big crane places rock and tetrapods at R.'a. H. W. Hunt (map) ..... Mar. 14 (F) *31
Detector for locating crevasses developed by Army ..... Apr. 11 90
Electronic scales in construction. J. F. Peatley ..... June 20 (F) *20
Equipment orders, construction contracts level off (chart) ..... May 16 *69
Export-Import Bank's best customers—25 U. S. suppliers with largest active lines (table) ..... June 13 38
German industry develops one-pass road maker ..... June 27 (F) *81
Helicopter places steeple on church in Bloomfield, Mich. ..... May 23 *28
Hydraulic rig digs caissons. Mar. 14 *69
Jacks raise formwork for tall silos ..... May 2 *63
Jumbo moves thin shell forms ..... May 9 (F) *47
Lever on rails lifts 71 ton beams ..... May 16 *71
Machinery makers trim their forecasts ..... June 20 *42
Makers grow more optimistic. Feb. 21 *92
"Mole" comes through—finishes flood control tunnel at Oahe Dam ..... Apr. 18 *28
1957 outlook uncertain, but in 1956 equipment makers set sales record (table) ..... May 2 110
Prices up in April (table) ..... May 23 112
Raymond Concrete Pile ships trailers as part of shipment for Liberian road job ..... June 20 *92

* Illustrated; e, editorials. (F) Articles over a page

Scaffolds—how to cut bushaps ..... Feb. 21 *239
Shipments (charts) ..... Feb. 21 68
Tetrapod forms now on market ..... Feb. 28 *62

Construction Materials

ASTM changes cover rivet steel, roofing, masonry grout and reinforcement ..... Mar. 14 23
Asphalt base over wire fabric saves million on Houston airport paving ..... Jan. 24 *207
Asphalt—Connecticut Highway Dept's new pre-mix asphalt surface treatment (table) ..... Jan. 31 (F) *39
Asphalt paving classification to end mix confusion (chart) ..... Feb. 28 24
Asphalt plant costs cut by electric heating elements. W. J. Smith ..... Jan. 17 *67
Fir plywood mills have increased production to match upturn in orders ..... Apr. 25 134
From piles of masonry to slim metal and glass shafts—big changes in buildings over last 100 years ..... May 23 (F) *33
Glass fiber troughs at El Centro, Calif. filtration plant ..... May 23 (F) *51
Laboratory for Monsanto Chemical built almost completely of plastics ..... June 20 (F) *56
An architect's view of plastics. H. H. Bradley ..... June 20 58
A contractor's view of plastics. W. H. Cunliff ..... June 20 59
Linoleum loses as paving material in Rhode Island ..... June 20 34
Materials and labor prices ..... Jan. 3 62
Jan. 10-78, Jan. 17-84, Jan. 24-220, Jan. 31-62, Feb. 7-102, Feb. 14-79, Feb. 21-250, Feb. 28-74, Mar. 7-108, Mar. 14-90, Mar. 21-130, Mar. 28-92, Apr. 4-116, Apr. 11-112, Apr. 18-425, Apr. 25-104, May 2-89, May 9-113, May 16-120, May 23-93, May 30-88, June 6-130, June 13-114, June 20-110, June 27 108
Names for asphalt mix types ..... Feb. 28 *120
NAHB builds test house for research on materials ..... Apr. 18 101
Plaster work on W. Va. school stopped to get rid of unwanted spots ..... Feb. 28 29
Rising prices helped boost 1956 sales (table) ..... May 2 107
Runway paving materials reaction to accelerated tests—Asphalt sturdier. V. A. Endersby ..... Jan. 24 8
San Francisco Construction Materials Center—experiment to be tried nationally ..... Mar. 7 144
Shipments (table) ..... Feb. 21 67
60th Annual Meeting—adopts new reinforcement specs ..... June 27 55
Steel house and a host of new building products at NAHB Convention-Exposition in Chicago ..... Jan. 31 *23
Supply and delivery schedules in 22 cities (charts & tables) ..... Feb. 21 66
Value of "or equal" clause. J. E. Blue ..... June 20 8
Warehouse walls at Franklin Park, Ill. made of four materials ..... Mar. 21 *32
Construction Materials see also Aluminum, Cement, Concrete, Steel etc.
Construction Specifications Institute—First national convention—plugging the holes in specifications. May 16 (F) *21

Contractors

Baltimore, Md. bidder threatens court action on $9.8 million award for state office building ..... Feb. 21 *52
Construction industry profile (chart) Feb. 21 70
Contractor new business by size of firm—1956 compared with 1955 and 1951-1956 (chart & tables) ..... June 6 (F) 172
Cote Ste. Catherine lock contractor is staying ahead (map) ..... Feb. 28 (F) *33
Court favors subcontractor — 6,000 change orders on U. S. hospital job in Salt Lake City kill original contract ..... May 16 171
ENR report on the $100-billion road program — rising costs challenge highway contractors (charts & tables) ..... Jan. 24 (F) *88
Export-Import Bank exports U. S. construction—only U. S. contractors can compete (charts & table) ..... June 13 (F) *35
Failures 1957 by type of work (table) ..... June 13 168
Failures in 1956 (table) ..... Feb. 21 84
McGraw, F. H. becomes developer ..... June 20 30
Merritt-Chapman & Scott gets Glen Canyon Dam ..... May 2 23
Mitchell, Richard J. building contractor to head joint board ..... June 13 *179
North Carolina declares licensing law unconstitutional ..... Mar. 21 169
Novices called major factor in failure rate ..... Apr. 25 134
Number of contractors sets record (chart & tables) ..... June 6 (F) 172
San Francisco contractor wins decision on bid bond forfeiture ..... June 20 150
Subcontractor bond. R. A. Beck reply to I. V. Verbin ..... June 20 8
Utah Construction Co's formula for success: diversification. Barbara Lamp ..... Apr. 11 (F) *34
Value of "or equal" clause. J. E. Blue ..... June 20 8
Virginia counties are denied power of contractor examination ..... Apr. 18 26
Yu Kiru Teng, from Manila, and Einar Thorsen from Copenhagen have bid contracts for U. S. military construction abroad ..... Jan. 10 *59

Contracts

Awards
Arizona road award is approved ahead of fund allocation. Apr. 4 28
Canadian awards down (chart) ..... Apr. 25 131
Commercial building contracts head for record (chart) ..... May 23 111
Highway and bridge contracts first four months '57 (table) ..... May 9 142
Off as private work slumps (table) ..... Feb. 7 126
Private awards score April upturn ..... May 9 138
Private awards will pick up shortly (charts) ..... Mar. 28 21
Public awards boost March total (table) ..... Apr. 4 141
School awards up ..... Apr. 4 145
Tollroads reaching end of the line (table) ..... May 16 170
Up slightly in May ..... June 6 176
Bids
Baltimore, Md. state office building—bid battle goes to court ..... Feb. 21-292, Mar. 28 112
California—low bid on tough excavation job for freeway ..... Apr. 4 24
Clock's accuracy key to award on $4-million job on high school in Phoenix, Ariz. ..... Jan. 3 78
Contractors raise prices on federal-aid highways ..... May 2 25
Florida prestressed highway bridge bid price very low ..... June 13 97
Merritt-Chapman does it again—bids for Glen Canyon Dam ..... Apr. 18 (F) *23
Merritt-Chapman & Scott gets Glen Canyon Dam ..... May 2 23
St. Lawrence blues ..... June 13 e192
St. Lawrence Seaway excavation a low-bidders nightmare (map) ..... June 13 31
Tolt River water supply project, Seattle, Wash.—pre-bid conference called to settle contract size ..... June 27 70
West Delaware Tunnel bids. May 2 28
Building contracts lag, others boom ..... Mar. 7 e36
BPR has suggested an "anti-pirating" clause in road department-contractor contracts ..... Apr. 25 (F) 25
Construction contracts boom to record $21.7 billion in 1956 (table) ..... Feb. 21 60
Court favors subcontractor — 6,000 change orders on U. S. hospital job in Salt Lake City kill original contract ..... May 16 171
Engineering construction contracts (tables) ..... Jan. 10-102, Feb. 7 126
Apr. 4-141, May 9-138, June 6 177
Error in judgement ..... May 2 e192
Heavy construction contract history 1925-1956 (table) ..... Feb. 21 62
Highway and bridge contracts booming (chart) ..... Apr. 18 176
Kansas City Tollroad—first contracts awarded ..... June 20 144

D

Dams

Arizona
Indians build dam in secret after being blocked by earlier legal action ..... June 27 34
Arkansas
Dardanelle and Greers Ferry—two multi-purpose projects ..... June 20 30
Barkley Dam, Ky.
First contract awarded, had 10 bidders ..... June 13 174
Brazil
Tres Marias, Furnas dams are two schemes in the big hydro plans ..... Apr. 11 80
Brownlee Dam, Idaho
Floods knock out two cofferdams ..... Mar. 7 *29
Penstock liner assembled fast ..... May 16 *25
Snake River Dam in the Hells Canyon region will be rushed into service by 1958 ..... Feb. 7 (F) *46
Snake River Dam in the Hells Canyon region will be rushed into service by 1958 — Highest rockfill? F. M. Tompkins ..... Mar. 14 6
Buford Dam, Ga.
Second federal project on the Apalachicola River expected to be on the line this summer (map) ..... Mar. 14 (F) *28
California
USBR and utility agree on power dam above Friant ..... Mar. 21 *
Cheatham Dam, Tenn.
Lock and dam under water in Cumberland-River flood ..... Feb. 21 *49
China
Sanmen Gorge Dam construction underway—start of Yellow River project ..... June 27 9
Dalles Dam, Ore.
Heat pump installation uses generator cooling water as a heat source ..... Apr. 25 *
Spillway sills first time ..... Mar. 28 *109
Delaware River Dam
Wallpack Bend rejected; downstream site favored ..... Mar. 7 27
Federal dams—Northwest group calls for regional financing agency ..... Jan. 10 34
Fort Gaines, Ga.
Largest of four federal structures on the Apalachicola River is underway (map) ..... Mar. 14 (F) *28
Fort Randall Dam, Picktown, N. D.
Dambuilder tries claim in hurry and wait case ..... Feb. 14 101
Germany
Rappbode Valley Dam begins to take shape ..... Mar. 21 *62
Glen Canyon Dam, Colo.
Merritt-Chapman does it again ..... Apr. 18 (F) *23
Merritt-Chapman & Scott gets Glen Canyon Dam ..... May 2 23
Gorge Dam
Builder, city seek to cancel contract ..... Mar. 7 (F) *28
Hells Canyon, Idaho
End of Hells Canyon ..... Apr. 11 e188
Hoover Dam (Boulder)
Sewage plant to serve tourist population ..... Jan. 10 33
Ice Harbor Dam, Wash.
First concrete placed ..... June 27 *28
India
Construction begun on concrete gravity dam on the Rihand River ..... May 9 *26
Fast concreting at Bhakra Dam — Faster concreting at Bhakra. M. R. Chopra ..... Apr. 25 11
Hirakud, India's first "modern" dam (map) ..... Mar. 14 *28
India modernizes dam building ..... May 23 e136
Kosi River project approved by U. S. experts ..... Feb. 21 66
Iroquois Dam
Mixing plant is automatic. H. H. McLean ..... May 9 (F) *47
John H. Kerr Dam, Va.
Powerhouse gets centralized controls ..... Apr. 18 *34
Powerhouse gets centralized controls—Savings questioned. D. B. Dingman ..... May 30 12
Keokuk Dam, Iowa
New lock on the Upper Mississippi Waterway will eliminate serious bottleneck ..... Apr. 4 *28
Kings River, Calif.
Stresses in dams. F. N. Dloughy ..... Apr. 25 11
Leech Lake Dam, Minn.
Cofferdam break leads to dam failure (map) ..... June 13 *28
Long Sault Dam
Mixing plant is automatic. H. H. McLean ..... May 9 (F) *47
Mansfield, Tex.
Dams kept the Colorado in complete check during floods ..... May * *29
Massena Intake
Mixing plant is automatic. H. H. McLean ..... May 9 (F) *47
Mayfield Dam, Wash.
Delays cost $21,000 a month ..... Apr. 18 29
Tacoma wins round at Mayfield, fight still on ..... Apr. 4 26
Mexico
Santo Tomas and Pinzanes, two dams in tandem, store and regulate water at Tingambato ..... Jan. 24 *173
Monticello Dam, Calif.
Solano Project key unit in operation ..... Mar. 28 *24
New Croton Dam, N. Y.
Cracked spillway healed with grout ..... Jan. 31 (F) *35
Nimbus Dam
Washout damages denied builders ..... Mar. 21 34
Oahe Dam, S. D.
Derrick stone is specified ..... Feb. 21 *239
"Mole" comes through—finishes flood control tunnel ..... Apr. 18 *28
Power tunnels to be inverted siphons ..... June 27 (F) *35
Ohio River Lock and Dam 29 at Ashland, Ky.—Barge rams dam ..... June 13 *27
Oklahoma
Dam projects block highway program ..... Feb. 28 29
Oregon
Upper Lewis River—highest earthfill dam starts to grow ..... June 13 *29
Oroville Dam, Calif.
Immediate start urged on Feather River Project ..... Jan. 17 28
Preparatory jobs being readied for bid call on Feather River Project unit ..... Mar. 28 27

* Illustrated; e, editorials; (F) Articles over a page

Pakistan
Dam contract let to Utah Construction Co. ..... Mar. 7 69
Peru
Quiroz Irrigation Project ..... Feb. 14 *86
Pleasant Valley Dam
FPC study hits two-dam scheme (map) ..... Mar. 21 50
Priest Rapids Dam, Wash.
Work starts on biggest single contract (map & table) ..... Jan. 3 (F) *36
Register of U. S. dams is under preparation ..... Feb. 21 47
Rocky Reach Dam, Wash.
June bid opening set ..... Apr. 4 147
Mid-June bid opening for final stages of work on $200 million project ..... May 30 104
St. Lawrence Power Dam
Mixing plant is automatic ..... H. H. McLean ..... May 9 (F) *47
Who's right about winter concreting? ..... A. J. Fox Jr. ..... Mar. 7 (F) *23
Scotland
Cluanie Dam uses precast concrete panels featuring a dovetail design ..... May 16 *81
Snake River Dam, Wash.
FPC study shifts two-dam scheme (map) ..... Mar. 21 50
Site surveys for proposed Lower Monumental Dam ..... Jan. 10 25
Soil Conservation Service breaks into the big time ..... Apr. 4 (F) *24
Steam
Shallow arches roof of curved powerhouse at arch dam to fit narrow gorge ..... June 20 94
SCS projects: Delaware's Bear Creek watershed, Wray Watershed, Colo., Oak Middle Creek Tributaries, Pa., Harmony Creek, Iowa, Big Weweoka Creek, Okla., and Upper Grave Creek, W. Va. ..... Apr. 4 *22
Spring Creek Dam, Okla.
Water supply dam draws wide range of bids (unit prices) ..... Mar. 28 80
Sudan
Roseires Dam project on the Blue Nile is weighed by Sudanese who fret over Egypt's delay on Aswan High Dam (map) ..... Jan. 17 (F) 50
Switzerland
Gioschenalp Dam taps separate streams for power ..... May 16 *82
Grande Dixence Dam will be world's highest gravity dam—how do U. S.-Swiss designs compare? W. H. Holmes (chart) ..... Mar. 28 (F) *32
Grande Dixence Dam will be world's highest gravity dam—Stresses in dams. F. N. Dlouhy ..... Apr. 25 11
Thailand
Greater Chao Phya Project Headwork—Changing exchange rate. Udom Seamruchi ..... Apr. 11 16
Trinity Dam
Bid $11 million over estimate ..... Feb. 14 *23
Trinity River project—partnership proposal ..... Feb. 21 45
Tunnel progresses at Trinity Dam ..... May 2 (F) *38
Washington
Steel, concrete seal under dam on Swift hydro project ..... Mar. 21 *34
Jim Woodruff Dam
First completed of four federal structures on the Apalachicola River (map) ..... Mar. 14 (F) *28

Defense

Alaska military spending to hit $125 million ..... Jan. 10 26
Build-up for better Trans-Arctic bases. Waldo Bowman (map) ..... Feb. 7 (F) *30
California's State Harbor Board asks ODM for terminal loan ..... Mar. 28 30
Catastrophe plans aired by U. S. corporations ..... May 16 67
Federal spending for military public works ..... Jan. 24 46
Rota, Key to U. S. bases in Spain. H. W. Hunt (map) ..... Mar. 14 (F) *31
USAF engineers—a few handle billions ..... May 2 (F) *46
U. S. Air Force has built two bases for the biggest strategic bombers ..... Feb. 28 (F) *40

Drainage

Los Angeles, Calif. flood control drains (unit prices) ..... Feb. 28 72
USGS gages groundwater seepage to surface streams ..... Apr. 18 101

Dredges and Dredging

Great Lakes dredging—lake links start getting seaway depth (map) ..... June 6 *31
Hampton Roads, Va. disposal area will take 22 years to fill ..... June 6 (F) *48
Heavy-duty dredge pump is full-lined ..... Feb. 14 *50
Hydraulic dredging carried out in San Francisco Bay tidelands by Utah Construction Co. Barbara Lamb ..... Apr. 11 (F) *34
Louisiana channel dredging for flood control (unit prices) ..... Feb. 28 72
St. Lawrence Seaway—South Cornwall Channel dredging contracts ..... May 16 25
Upper Iowa River—channel dredging (unit prices) ..... May 9 110
Drills and drilling — Cost saving drill platform features maneuverability ..... May. 7 48
Drydocks—Boston Navy Yard to get new $20 million drydock ..... Feb. 28 23

E

Earth Moving

Barges are building a railroad fill over Salt Lake (map) ..... June 6 (F) *24
California—tough excavation job for freeway pushes award $1 million over fund allocation ..... Apr. 4 24
Cross Bronx Expressway—difficult rock excavation (map) ..... May 16 (F) *48
Equipment: net sales and profits (table) ..... May 2 110
Los Angeles—new shields speed tunneling through sand ..... Apr. 4 (F) *40
St. Lawrence Seaway Excavation—low-boddens' nightmare (map) ..... June 13 24
Santa Fe Trail widening, big New Mexico job (unit prices) ..... May 9 *110
Spillway excavation for Oahe Reservoir (unit prices) ..... Mar. 14 88
Texas A & M earthmoving school stresses operation ..... June 20 82
Earthquakes. Minor quake hits San Francisco ..... Mar. 28 *23
San Francisco airport hangar pile test was a load test during earthquake ..... Apr. 25 *2
Earthslides — Portland, Ore. plastic sheeting over rainsoaked soil protects against slides ..... Mar. 28 *25

Electronics

How do electronic aides stack up? J. J. Heatley ..... June 20 (F) *39
McGraw, F. H. & Co. a cost system that pays off fast ..... June 20 (F) *147
Philadelphia water agency pushes electronics research ..... June 27 24
Elevators—Cable breaks, fall kills seven men at the Duval County courthouse, Fla. construction ..... Mar. 28 23

Engineers

ASEE speakers call research a must for educators ..... June 27 *27
Advice on student guidance ..... Feb. 7 e132
Akron University offers engineer master's degree ..... Apr. 25 68
Alberta college starts post-graduate instruction in highway engineering ..... Apr. 25 29
Amoco offers scholarships to stir highway interest ..... Apr. 18 24
Bargaining by professionals ..... May 14 e132
BPR has suggested an "anti-pirating" clause ..... Apr. 25 (F) 25
BPR has suggested an "anti-pirating" clause. Attn: anti-pirating C. W. Gudlin ..... May 23 8
BPR has suggested an "anti-pirating" clause. Frozen personnel. H. R. Powell ..... June 6 9
Change in ASCE membership grades proposed ..... June 13 (F) *25
Civil engineer's role in nuclear engineering highlighted at 1957 Nucleonics Congress ..... Mar. 21 (F) 28
Clyde, George Dewey becomes governor of Utah ..... Jan. 10 *66
Construction industry profile (charts) ..... Feb. 21 70
Consultants build a new home of their own ..... May 30 (F) *32
EJC describes its functions ..... May 16 32
Engineer shortage: ask your secretaries ..... Mar. 7 14
Engineering students join "summer" program of PHS ..... June 20 82
Engineering teachers. G. F. Kimber ..... Mar. 14 6
Engineering teachers—Let the retired teach J. R. McKinney ..... Apr. 11 12
Engineering teachers—shortage studies starts with $10,000 NFS grant ..... May 16 102
Error in judgement ..... May 2 e132
Error in judgement—Job-freeze abhorred R. C. Cook ..... May 30 10
Estimating is for pros Seymour Berger ..... June 27 6
A gem from the oratory ..... Mar. 21 e192
Help high school teachers C. J. Posey ..... Mar. 21 14
Land surveyors—are they engineers? ..... Mar. 21 24
Licensing—North Carolina board would extend licensing to nongraduates ..... Mar. 7 24
Michigan engineers fail to block Candidate for road chief ..... Mar. 28 27
NSPE debates future engineer standards ..... Feb. 21 46
On upgrading technicians W. A. White ..... Mar. 7 9
On upgrading technicians—Takes professionals to task R. H. Hogg ..... May 16 8
Pro and con on merits of the architect-engineer (table) ..... May 23 (F) *42
Public Health Service seeks trainees ..... Mar. 7 88
Railroads seek more engineers ..... Mar. 14 24
Recruiting foreign engineers. Shortage "at a price" F. G. Yates ..... Jan. 10 8
Rx for engineer shortage. 1. Summer help 2. Womanpower for engineering ..... May 16 (F) 28
Salaries
How engineers' salaries have changed—1956 salaries compared with earnings in 1939. Arthur Richards (charts & table) ..... June 6 (F) *48
System for salary administration (charts) ..... Jan. 24 30
Top jobs get special push in California proposal ..... Mar. 28 27
Toronto paving cost estimate 37% too low, salaries are blamed ..... Mar. 14 24
Wife questions salaries ..... Apr. 18 8
Wife questions salaries. Service "professionals" D. E. Connolly ..... June 6 9
Wife questions salaries—Wives have last word ..... June 6 9
Sanitary engineers, Oct. 1 '58 new deadline for no-exam certification ..... Apr. 18 29
Seattle, Wash.—Boeing leases building, boat on campus to use engineering students for non-classified drafting work ..... May 16 24
Shortage of engineers? W. E. Sechrist ..... Feb. 14 15
Shortage of engineers—One reader's opinions J. A. Roy ..... Jan. 10 8
The "so-called" shortage A. R. Jacksod ..... Feb. 7 10
State road engineers' on-job training started in N. C. ..... Apr. 25 32
Sverdrup, Leif, engineer, civic leader calls engineers underpaid ..... Apr. 4 *88
Traffic—engineering course will be expanded at Yale ..... Jan. 10 27
Two schemes urged to ease engineer shortage ..... Jan. 3 27
USAF engineers—a few handle billions ..... May 2 (F) *46
Univ. of Cincinnati will offer graduate course for sanitary engineers June 20
Use of scientific knowledge. ..... Feb. 7 e132
Engineers Joint Council—1956 salary survey and proposal for salary administration given at general assembly in New York (charts) ..... Jan. 24 30
Engineers and Scientists of America—Adopts new look, will be solely professional ..... June 13 179
Erosion—Underwater erosion blamed for cave-in of Jacksonville, Fla. parking lot ..... Jan. 3 27
Export-Import Bank—This bank exports U. S. construction (charts & table) ..... June 13 (F) *35

F

Ferries—Delaware-New Jersey ferry service proposed ..... May 30 28

Financial

AGC sees tighter price squeezes coming ..... Mar. 21 (F) 25
Anderson, Robert B. new treasury chief—same money policy June 13 (F) *165
Another big year of federal spending (table) ..... Jan. 10 21
Budget Bureau statistics squabble takes new turn ..... June 20 148
C. E. D. supports foreign aid ..... Apr. 11 30
Canada prepares for phenomenal growth ..... Apr. 18 171
Colorado legislature asked to increase interest rate on anticipation warrants ..... Feb. 7 132
Congress hones budget ax but no big cuts are due (table) ..... May 9 27
Congress seeks cure for lease-purchase ..... Feb. 28 *94
Congress shaves down the budget—but deep cuts result ..... June 20 26
Congress takes a closer look at highway program (table) ..... Jan. 17 (F) *24
Congress wraps up housing package ..... May 16 167
Connecticut sells turnpike bonds ..... Apr. 11 141
Construction equipment for expanded federal-aid highway program can be handled by local bankers ..... Mar. 28 110
Construction financing costs up sharply in 1956 (chart & table) ..... Feb. 21 77
Construction machinery orders—machinery makers trim their forecasts ..... June 20 142
Credit worries shadow road meeting ..... Feb. 7 (F) *21
Current credit policies necessary, banker says ..... Feb. 21 294
Demand for credit is expected to ease (chart) ..... Mar. 21 167
The economic climate ..... Mar. 28 e132
Economy slows down, still running fast ..... June 27 134
ENR report on the $100-billion road program (charts & tables) ..... Jan. 24 (F) *59
Challenge: spend $100 billion wisely 60
Reimbursement: a billion dollar question 64

* Illustrated; e, editorials; (F) Articles over a page

Rising costs challenge highway contractors ... 88
Export-Import Bank exports U. S. construction (charts & table) June 13 (F) •33
Federal aid for sewage totals $3.8 million ... Feb 21 30
Federal budget analysis shows construction will take a big bite Jan 24 (F) 46
Fedyral funds totaling $55 million for airport work ... Apr 11 26
FHA backs "package" deals ... Feb 14 29
Government suspends lease-purchase programs ... Feb 21 •43
Homebuilders attack credit curbs, call for Congressional action ... Jan 10 100
Homebuilders see 20% drop in starts unless credit is eased soon ... Jan 17 106
Housing gets loss of consumer dollar ... Feb 21 •288
Housing law coming—liberal bill goes to conference ... June 6 176
Industry's capital spending will top the 1956 record (chart &table) May 2 21
Maine sets three precedents in construction financing ... June 13 170
Matching funds trouble states under new highway program ... Mar 14 26
Mortgage support—Loan authorization gives Fannie Mae bigger tool Apr 4 145
New York to get federal funds for urban renewal ... May 9 142
1957—Main trends in the economy and how they will affect construction (table) ... Jan 17 104
Sacramento, Calif. redevelopment pays its way (map) ... Apr 25 (F) •30
Soil Conservation Service breaks into the big time ... Apr 4 (F) •21
Standardized schoolhouse paymate includes financing ... Feb 28 (F) •30
States push road, water plans ... June 13 168
Tight credit to last throughout 1957, prediction of George W. Wairocke ... Mar 14 108
Tight money market may curb road builders ... Jan 24 241
Treasury opposes bigger VA direct home loan plan ... Feb 14 101
Unions boost investments in U. S. assisted units ... May 16 111
U. S. money aids foreign transportation ... Mar 7 81
Washington State's $400 million public works program—money bills signed ... Apr 4 176
World Bank operations are building a better world—at a profit (map) Jan 17 (F) •21
Worrell NAHB seeks easier credit Jan 31 •23

Fire Protection

Design aids not fire spread ... May 2 •132
Nursing homes are unsafe NFPA manager charges ... June 6 27
Survey shows structural fire-protection weaknesses were responsible for considerable damage ... May 2 •69
Vermiculite-treated slab gets 4 hour fire rating ... May 23 89
Fires—Losses are expected to reach $1 billion mark ... June 6 29
Fish—Cedar Creek, Wash. fish ladder Apr 4 •51
Tacoma wins round at Mayfield, fight still on ... Apr 4 26
Fleming, Brig. General Robert J. Jr.—"Hurricane general" moves on ... May 16 •107

Floods and Flood Protection

Albuquerque, N. M.—new freeway may include a final harnessing of Embudo arroyo ... Apr 11 33
Cheatham Dam and lock on the Cumberland River in Tennessee flooded Feb 21 •48
Hawaii victims say Federal Flood Insurance is too high ... Mar 28 26
ICCD adds flood control to its field of interest and its name ... May 9 28
Kentucky study of flood control program ... Apr 25 28
Los Angeles, Calif. flood control drains (unit prices) ... Feb 28 72
Louisiana channel dredging for flood control (unit prices) ... Feb 28 72
New England flood fighter, General Flemins, leaves division command in a flurry of flood control construction work ... May 16 •107
Ohio River tributaries in flood damage at $15 million ... Feb 7 •23
Snake River floods knock out two Brownlee cofferdams ... Mar 7 •29
Soil Conservation Service breaks into the big time ... Apr 4 (F) •21
Techniques and trends in river use and control (map) ... Feb 21 (F) •130
Tetrapods—four legs against the sea, first installation in U. S. underway at Crescent City, Calif. and in Kahului Harbor, Hawaii ... Mar 21 (F) •46
Texas—flooding in east Texas can get worse ... May 2 •23
Texas floods ease water plight ... May 9 •29
Texas-Oklahoma area—torrential rains pose new flood threat ... May 30 23
Yuba City, Calif. files suit against the federal government ... Jan 10 26

Floors and Flooring

Cellular concrete floors wired easily for research building in Dayton, Ohio Apr 18 (F) •62
Lift-slabs connected to precast columns at Wingate Junior College, N. C. June 27 (F) •69

Foundations

Dresden Nuclear Power station footings designed to hold a 190 ft sphere June 6 •25
Fontana, Calif.—blast furnace base cast in a hurry ... June 13 •32
Greenland—air-cooled foundations keep permafrost ground frozen, Waldo Bowman—map) ... Feb 7 (F) •20
How foundations for the Air Force Academy were designed: Brown & Tone ... Apr 18 (F) •50
Hydraulic jets sink Carquinez caissons Apr 18 (F) •38
Investigation as to why buildings on clay foundations settle ... Apr 18 101
Toledo Edison Bay Shore Station—combination of methods for installation of bell and shaft type caissons Mar 28 (F) •62
Fraser, William L.—Succeeding William M. Hogg as field project engineer for Ontario Hydro's St. Lawrence Power Project ... May 16 •108

G

Garages

Boston will get 14 story parking garage ... June 6 25
Brazil—Rio de Janeiro starts a circular garage, Sao Paulo finishes long, narrow one ... June 6 • 61
Dallas, Tex. multistory garage also a drive-in bank ... June 6 •27
Deck structure built by F. F. Mumper ... June 20 8
New York garage to be built in mid-town Manhattan will satisfy strict code ... Apr 4 •26
Ohio Supreme Court has rules that highway funds can't be used for parking garages in Toledo ... Mar 28 117
Philadelphia will give up its public parking business—Philadelphia parking plans—C. H. Frazier ... Mar 28 •40
San Francisco merchants plan non-profit garage ... Mar 7 33
Garages see also Street Traffic—Parking

Garbage and Refuse Disposal

Denver requires disposal units in new dwellings ... Mar 7 24
Incineration research to examine basic factors ... Mar 28 79
Landfill—Hampton Roads, Va. disposal area will take 22 years to fill ... June 6 (F) •48
New York City's $80-million program passes halfway mark ... Apr 25 68
Pipes put in garbage fill at Univ of Wash. to burn off smelly gases ... Mar 7 •25

Girders

Longest welded girder record in Houston, Tex. ... Jan 24 •48
Twin girders in Kansas (unit prices) ... June 27 100
Welded girders in Europe G. R. Thalheimer ... Feb 7 8
Gotaas, Harold B.—Northwestern will get engineering dean with new ideas on public works teaching ... Jan 3 •56

Grade Crossings

ENR report on the $100-billion road program ... Jan 24 (F) •59
Tri-level grade separation saves space ... Jan 24 149
Latest thinking on interchange design ... Jan 24 156
The rural-urban interchange problem ... Jan 24 163
Ventura and San Diego Freeways, Los Angeles, interchange (unit prices) (map) ... Feb 7 [illegible]

Ground Water

L. A.—salt water barriers consisting of recharge wells would protect ground water quality (map) ... May 2 24
States face up to water rights problem groundwater laws (map) ... May 9 (F) 23
Grouting—Grout makes damaged spillway sound at New Croton Dam ... Jan 31 (F) •35

H

Haas-Haynie Utah—Project partnership ends ... June 27 146
Hardin, Maj. Gen. John R. Mississippi River engineer plans to retire Apr 25 •30
Hathaway, Carl River Control expert to the World Bank ... Mar 28 •31

Heating and Ventilating

Heat pump at Dalles Dam uses power for coolant ... Apr 25 •30
High temperature hot water system for heating aircraft assembly plant ... May 9 (F) •
How much does it cost to heat and cool homes? ... June 20 [illegible]
Large package heat pump system installed at American Cyclo plant ... Apr 18 •30
Snow-melting sidewalks will be installed around C.I.T. Finance Corp. Building in N. Y. ... June 27 •
Sun-heated homes—design contest ... Apr 25 28

Helicopter places steeple on church in Bloomfield, Mich. ... May 23 •28
Henry, Stokes T.—ENR pioneer dies ... Apr 11 •30

Highway Administration

AHONAS annual meeting—a regional look at road plans ... Mar 7 25
Arizona Highway Dept.—separate legal division proposed ... Mar 7 [illegible]
BPR has suggested an "anti-gratuity" clause in road department-consultant contracts ... Apr 25 (F) •
BPR'S new setup ... June 6 •
Colorado's Gov. S. L. R. McNichols has vetoed utilities relocation pay ... May 16 [illegible]
Delaware revises its method of awarding road work ... Apr 18 [illegible]
Error in judgement ... May 2 •132
Four states announce road programs totaling more than $500 million in 1957 ... Jan 10 [illegible]
Indiana Highway Commission four officials indicted ... May 16 [illegible]
Kentucky picks advisors to aid highway officials ... May 16 [illegible]
Legislation logs ... Apr 11 28
Maryland State Road Commission report shows skyrocketing road costs ... Feb 21 [illegible]
Michigan engineers fail to block candidate for road chief ... Mar 28 27
North Carolina moves to get full highway access control ... Mar 7 [illegible]
North Carolina revamps highway administration ... June 27 [illegible]
Pennsylvania and North Carolina highway departments gear up for the big job ahead ... Jan 6 24
Pennsylvania Road bureau sets up contract unit ... May 30 109
Pennsylvania road probe goes off ... May 16 [illegible]
Pennsylvania tollroad chiefs are suspended ... Feb 7 [illegible]
Pennsylvania Turnpike Commission end is sought in new state bill ... Feb 21 [illegible]
Pennsylvania Turnpike—move of Gov. Leader to free turnpike may foreshadow end of toll highways ... Mar 28 26
Pennsylvania Turnpike probe—added indictments asked ... Apr 18 26
Pennsylvania's Governor George M. Leader seeks billboard ban ... Apr 25 28
Road progress faltering at state level ... Mar 28 24
States due to make more highway program decisions ... Jan 10 24
State road departments face organization plans ... Feb 28 25
State road plans get a hard push ... Apr 11 26
Wyoming, North Carolina, and Pennsylvania set right-of-way rules ... June 6 32

Highway Construction

AHONAS annual meeting—a regional look at plans ... Mar 7 25
Alaska—Rail pile information R. J. DeLaHunt ... Feb 21 •8
Arizona—most bids up (unit prices) ... Mar 7 108
Bridges built fast on Will Rogers Turnpike, Okla. D. E. Stevens Jan 3 (F) •32
Close bidding features Nevada highway (unit prices) ... June 13 113
Colorado highway includes structures (unit prices) ... May 30 85
Colorado highway jobs—bid competition keen ... Feb 14 101
Congress takes a closer look at highway program (table) ... Jan 17 (F) •24
Contracts booming (chart) ... Apr 18 176
Cross Bronx Expressway—eight-tenths mile for $9.5 million (map) ... May 16 (F) •48
ENR report on the $100-billion road program (charts & tables) ... Jan 24 (F) •59 164
Challenge: spend $100 billion wisely ... Jan 24 60

• Illustrated; e, editorials. (F) Articles over a page

Reimbursement: a billion dollar question ..... Jan 24 64
Rising costs challenge highway contractors ..... Jan 24 88
Engineering moves to meet road problems ..... Jan 24 96
Special study on construction equipment ..... Jan 24 113
Tri-level grade separation saves space ..... Jan 24 149
Speedy work on the Spokane Freeway ..... Jan 24 150
Latest thinking on interchange design ..... Jan 24 156
First interstate link completed ..... Jan 24 160
The rural-urban interchange problem ..... Jan 24 163
England to begin work on London expressway ..... Mar 7 62
Federal highway program bills introduced to amend or implement ..... Feb 28 21
Florida's first turnpike opened ..... Feb 7 *26
Florida's Sunshine State Parkway section repaired for $400,000 ..... June 27 28
Greenland—Corps researchers to test road construction on ice ..... Apr 25 32
Highway engineers reassured—computers will pace road program ..... Mar 14 (F) 21
Idaho gives the green light to $600 million road program ..... Jan 31 27
Inter-American Highway rain, slides fail to halt Guatemala road ..... Jan 17 *62
Jacksonville, Fla. three bridge approaches "braided" into one to break traffic bottleneck ..... Mar 7 (F) *38
Kansas City tollroad—first contracts awarded ..... June 20 144
Liberia—new highway will run from St. Paul river to Kakiblun ..... June 20 92
Linoleum loses as paving material in Rhode Island ..... June 20 4
Louisiana's Acadian Thruway blocked by financial studies ..... Mar 7 *18
New Jersey plans long-sought seashore road from Gloucester to South Jersey ..... Mar 21 37
New England Thruway—through 8 cities—12 non-stop miles June 20 (F) *32
New York Thruway's Berkshire link—New England's route to the west ..... June 27 (F) *12
North Carolina road work hits $62.9 billion mark ..... June 27 81
Prestressed concrete roadway studied in Pennsylvania ..... June 6 *106
Rhode Island and California pacts signed ..... June 6 178
Road program—two year stretch-out for the 41,000 miles (chart & table) ..... Apr 11 (F) *21
Santa Fe Trail widening, big New Mexico job (unit prices) ..... May 9 *110
State road plans get a hard push ..... Apr 11 26
Tight money market may curb road builders ..... Jan 24 261
Tollroad construction is down 50% but budgets for state highways up 51% this year (chart & tables) ..... May 2 (F) 26
Tollroad construction programs 1957 (table) ..... May 16 170
World expenditures reach $12.9 billion during 1956 ..... Feb 7 92

Highway Design

Connecticut Turnpike's Quinnipiac River crossing at New Haven—superstructure goes on "croquet wicket" piers ..... June 6 *28
ENR report on the $100-billion road program ..... Jan 24 (F) *59
Engineering moves to meet road problem ..... Jan 24 96
Tri-level grade separation saves space ..... Jan 24 149
Latest thinking on interchange design ..... Jan 24 156
The rural-urban interchange problem ..... Jan 24 163
Landscaping—full partner in Connecticut Turnpike design June 13 (F) *62
Ohio mechanizes highway design ..... Mar 14 (F) *37

Highway Economics

AHONAS annual meeting—a regional look at road plans ..... Mar 7 25
Budgets for state highways up to 51% this year (chart & tables) ..... May 2 (F) 26
California—mountain highway project boosts budget ..... Feb 28 94
Cincinnati expressway plan will cost $50 million more ..... May 30 109
Colorado highway jobs—bid competition keen ..... Feb 14 101
Colorado road projects halted by financing stalemate ..... Mar 21 172
Congress inspects highway program—$350 million of federal aid money has been obligated by states (table) ..... Jan 17 (F) *24
Connecticut sells turnpike bonds ..... Apr 11 141
Connecticut studies ways to finance road program ..... Mar 7 26
Connecticut Turnpike's future financing depends on legislature ..... Jan 10 104
Credit worries shadow road meeting ..... Feb 7 (F) *21
ENR report on the $100 billion road program (charts & tables) ..... Jan 24 (F) *59
Challenge: spend $100 billion wisely ..... Jan 24 60
Reimbursement: a billion dollar question ..... Jan 24 64
Rising costs challenge highway contractors ..... Jan 24 88
Florida highway bridge bid price very low ..... June 13 27
Florida Turnpike Authorities defer marketing of bonds for tollroad ..... Apr 25 131
Four states announce road programs totaling more than $600 million in 1957 ..... Jan 10 26
Highway Act—flood of bills introduced to amend or implement ..... Feb 28 21
Inter-American Highway within sight of completion ..... Jan 3 24
Jacksonville, Fla. Expressway—$30 million bond issue sold ..... Apr 18 171
Kentucky Turnpike has best month but receipts still low, free road boosted ..... May 30 109
Keystone Shortway new interstate link hit by turnpike bondholders ..... June 13 30
Local bankers hold key to federal road program ..... Mar 28 110
Louisiana's Acadian Thruway blocked by financial studies ..... Mar 7 *18
Maryland report shows skyrocketing road costs ..... Feb 21 36
Michigan votes more roads ..... June 13 *166
Middle West leads nation in road awards (table) ..... May 9 142
North Carolina boosts road funds ..... June 27 135
North Carolina reduces share cities must pay for right-of-way costs ..... June 27 29
Ohio lawmakers authorized $785 million as share of federal aid highway program ..... June 13 166
Pennsylvania governor requests free pike ..... Jan 10 27
Richmond-Petersburg Turnpike to finish within budget ..... May 30 109
Road program—eleven states have difficulty raising money ..... Mar 28 24
Road program—two year stretch-out for the 41,000 miles (chart & table) ..... Apr 11 (F) *21
State legislatures focus on raising highway funds ..... June 20 27
State legislatures tackle revenues for highway program ..... Feb. 14 (F) 23
States tackle road money task ..... Mar. 14 28
Trans-Andes Highway, Peru—297 mile road estimated to cost $23.5 million ..... June 27 91
Virginia must boost gas tax to finance highways ..... Feb. 14 99
World expenditures reach $12.9 billion during 1956 ..... Feb 7 92

Highway Equipment

Asphalt plant costs cut by electric heating elements. W. J. Smith ..... Jan. 17 *67
Computers will pace road program ..... Mar. 14 (F) 21
ENR report on the $100-billion road program—special study on construction equipment ..... Jan. 24 (F) *113
Finisher meets tight tolerances ..... Apr. 25 (F) *49
Ohio mechanizes highway design ..... Mar. 14 (F) *37
Pennsylvania specifies minimum equipment for road (unit prices)..Jan. 24 219
Road Show — credit worries shadow road meeting ..... Feb. 7 (F) *21
Road Show — dramatic collection of cranes and shovels is only part of $21-million Chicago display ..... Feb. 7 (F) *57
Tower lift eases servicing tasks ..... Jan. 17 *70

Highway Lighting

Connecticut Turnpike—lights to help the driver, but not to blind him ..... June 13 (F) *62
Connecticut Turnpike section will be completely lighted by mercury luminaires ..... Jan. 24 52

Highway Maintenance

Connecticut Highway Dept.'s new premix asphalt surface treatment (table) ..... Jan. 31 (F) *39
Florida's Sunshine State Parkway section repaired for $400,000...June 27 28
Florida's Sunshine State Parkway undergoing pavement repairs forced by rain effect ..... Mar. 21 27
Lignosol may be cure for frost heaving of roads ..... June 20 89
Maryland installs reinforced toes to guard causeway ..... Apr. 18 *93
Paving train lays two lanes of concrete on old road—special finisher meets tight tolerances ..... Apr. 25 (F) *49

Highway Marking

Florida highways get colored route signs ..... Mar. 14 *32
Markers for interstate highways ..... Mar. 7 e164

Highway Research

AASHO test road near Ottawa, Ill. to be ready in fall ..... Jan. 17 28
AASHO test road objectives approved ..... June 20 25
German industry develops one-pass road maker ..... June 27 (F) *81
Greenland—Corps researchers to test road construction on ice ..... Apr. 25 32
Lehigh Univ. studies two highway jobs in Pennsylvania to test jointless concrete pavement ... May 16 (F) *88
Lignosol may be cure for frost heaving of roads ..... June 20 89
Opaque film used for curing concrete road ..... June 20 *73
Prestressed concrete roadway studied in Pennsylvania ..... June 6 *106

Highway Safety

Garden State Parkway, N. J. is safest U. S. tollroad ..... Apr. 25 28
Hawaii's Nuuanu Pali highway wire mesh fences protect drivers ..... Apr. 18 *32
Landscaping — full partner in Connecticut Turnpike design ..... June 13 (F) *62

Highway Traffic

California public relations program will explain highway jams ..... May 16 31
Limited access property owners entitled to compensation for loss of access ..... May 30 29

Highways

Additions to the highway net ..... Mar. 14 e132
Alaska
Rail pile information. R. J. DeLaHunt ..... Feb. 21 *8
Albuquerque, N. M.
Freeway-floodway plan eyed ..... Apr. 11 33
Arizona has trouble with towns, may be forced to reject Grand Plan ..... Jan. 3 24
Arizona—Most bids up (unit prices) ..... Mar. 7 106
Better break for highways ..... Apr 4 e168
California
U. S. 99 joining Los Angeles with the Central Valley—resurfacing of a stretch of the southbound lanes ..... Apr. 25 (F) *49
Canada
Coast-to-coast highway now 63% complete ..... Jan. 10 25
Saskatchewan begins farm-to-market road plan ..... June 13 32
Colombia launches highway program (map) ..... Mar. 28 *74
Colorado—State Highway No 97 includes structures (unit prices) ..... May 30 85
Computers will pace road program ..... Mar. 14 (F) 21
Congress takes a closer look at highway program (table) ..... Jan. 17 (F) *24
Connecticut Turnpike
Future financing policy depends on legislature ..... Jan. 10 104
Landscaping—full partner in turnpike design ..... June 13 (F) *62
Cross Bronx Expressway
Eight-tenths mile of city expressway for $9.5 million (map)..May 16 (F) *48
Delaware Expressway
Pennsylvania picks route ..... Feb. 7 24
Detroit
Edsel Ford Expressway strip officially open to traffic ..... June 20 33
85th Congress will put the spotlight on the administration of the highway program (table) ..... Jan. 10 21
El Salvador and Honduras plan international highway ..... Apr. 18 84
ENR report on the $100-billion road program ..... Jan. 24 (F) *59-164
Challenge: spend $100 billion wisely ..... Jan. 24 60
Reimbursement: a billion dollar question ..... Jan. 24 64
Rising costs challenge highway contractors ..... Jan. 24 88
Engineering moves to meet road problems ..... Jan. 24 96
Special study on construction equipment ..... Jan. 24 113
Tri-level grade separation saves space ..... Jan. 24 149
Speedy work on the Spokane Freeway ..... Jan. 24 150
Latest thinking on interchange design ..... Jan. 24 156
First interstate link completed ..... Jan. 24 160
The rural-urban interchange problem ..... June 20 163
England
London expressway work to begin ..... Mar. 7 62
Federal construction spending for fiscal 1958 ..... Jan. 24 46

* Illustrated; e, editorials; (F) Articles over a page

Florida
Dolcy to Fort Pierce to Miami toll-road ..... Apr. 25 121
France
Riviera Tollroad is the first for France ..... Apr. 11 38
Garden State Parkway, N. J.
Safest U. S. tollroad ..... Apr. 25 28
Georgia
Twelve bids for Georgia highway (unit prices) ..... Jan. 17 82
Germany
New stretch of road winds through hills between Stuttgart and Ulm ..... May 30 *64
Highway Act of 1956 flood of bills introduced to amend or implement ..... Feb. 23 21
Inter-American Highway
The end of the road is near ..... Jan. 3 25
Guatemala road completed—rain, landslides, rockfalls fail to halt ..... Jan. 17 *62
Panama seeks $16 million loan ..... May 30 62
Jacksonville, Fla.
Three bridge approaches "branded" into one to break traffic bottleneck ..... Mar. 7 (F) *38
Kansas
ENR report on the $100-billion road program—first interstate link completed, U. S. Highway 40 west of Topeka ..... Jan. 24 *160
Los Angeles, Calif.
Ventura and San Diego Freeways interchange (unit prices) (map) ..... Feb. 7 100
Louisiana
Acadian Thruway blocked by financial studies ..... Mar. 7 *48
Massachusetts Turnpike
Controversy continues on extension ..... May 30 24
Nevada
Close bidding features Nevada Highway (unit prices) ..... June 13 113
New England Thruway
Through 8 cities—12 non-stop miles ..... June 20 (F) *52
New York City
Manhattan's West Side Express Highway to get major improvement ..... Feb. 7 24
New York Thruway
Berkshire link—New England's route to the West ..... June 27 (F) *42
Pennsylvania
Keystone Shortway — new interstate link hit by turnpike bondholders ..... June 13 30
Pennsylvania Turnpike
Added indictments asked in probe ..... Apr. 18 26
Governor requests free pike ..... Jan. 10 27
Northeastern Extension to be opened April 1 ..... Mar. 21 33
Peru
Plans $9-million secondary road program ..... Jan. 24 180
Trans-Andes Highway—297 mile road estimated to cost $23.5 million ..... June 27 91
Pittsburgh
Prestressed concrete roadway studied ..... June 6 *106
Planning for highways ..... Apr. 11 e168
Planning for highways—The highway planner, J. T. Howard ..... June 6 10
Road program—two year stretch-out for the 41,000 miles (chart & table) ..... Apr. 11 (F) *21
Road progress faltering at state level ..... Mar. 28 24
Road Show — credit worries shadow road meeting ..... Feb. 7 (F) *21
Road Show's $21-million Chicago display ..... Feb. 7 (F) *57
Roads too important to leave to the highway engineers, city planners should be heard too ..... Apr. 4 33
San Francisco, Calif. — transit plus roads equal metropolitan movement ..... June 27 (F) *23
Santa Fe Trail, N. M.
Widening, big rock job (unit prices) ..... May 9 *110
Spokane Freeway, Wash.
ENR report on the $100-billion road program—speedy work on the Spokane Freeway (map) ..... Jan. 24 *150
State road plans get a hard push ..... Apr. 11 26
Sunshine State Parkway, Fla.
Florida opens its turnpike ..... Feb. 7 *26
Pavement repairs forced by rain effect ..... Mar. 21-27, June 27 28
Tacoma-Everett Expressway
Underway this year ..... Feb. 28 29
Techniques and trends in transportation ..... Feb. 21 (F) *86
Toll roads
Competition for tollroads ..... Mar. 28 e132
Construction programs 1957 (table) ..... May 16 170
Controversial Colorado tunnel puts the spotlight on the problem of toll facilities in the interstate net ..... Apr. 11 23
First Kansas City tollroad contract awarded ..... June 20 144
Gov. Leader moves to free Pennsylvania Turnpike, may foreshadow end of toll highways ..... Mar. 28 26
State highway budgets up (chart & tables) ..... May 2 (F) 26
Venezuela
Caracas has fancy interchanges too ..... June 13 *93
Will Rogers Turnpike, Okla.
Bridges built fast on new turnpike. *D. E. Stevens ..... Jan. 3 (F), *32
Highways see also Pavements

Housing
Aldon system mass-produces houses on site ..... Apr. 18 (F) *87
Builders list ways to cut house costs ..... May 30 26
Buried housing—Arctic base build-up. Waldo Bowman (map) ..... Feb. 7 (F) *30
Canadian builders predict sharp drop in housing ..... Feb. 14 101
Capehart housing freeze to be lifted ..... Mar. 21 169
Capehart military housing projects for nine western states ..... Feb. 28 98
Cities report serious housing shortage —affects most low—and middle income families ..... Jan. 31 e27
Columbus, Ohio, agency power upheld by court ..... Apr. 18 134
Detroit builders urged to add space, cut frills ..... Mar. 28 112
Don't encourage disunity ..... Mar. 14 e132
FHA
Backs "package" deals ..... Feb. 14 99
Downpayments are pared—Congress makes plans for new aids ..... Apr. 4 25
House slashes down payments on FHA loans ..... May 16 167
Fannie Mae gets bigger role ..... Apr. 4 145
Fewer home buyers—survey of consumer plans foresees housing dip ..... Mar. 14 112
Homebuilders attack credit curbs, call for congressional action ..... Jan. 10 100
Homebuilders see 20% drop in starts unless credit is eased soon. Jan. 17 106
Homebuilders try mass production—big changes in buildings over last 100 years ..... May 23 (F) *33
Housing falters—March starts low ..... Apr. 18 172
Housing gets less of consumer dollar ..... Feb. 21 *288
Housing upturn possible ..... Apr. 11 e168
Latin American housing—"Do It Yourself" manual to improve homebuilding ..... Mar. 7 64
Law to help bolster hard-hit homebuilding industry will go to the White House for President's signature ..... June 6 *176
Loring Airbase, Maine, garden-type apartments for families ..... Feb. 28 (F) *40
Los Angeles, Calif. approves urban renewal projects ..... June 27 136
A million housing units ..... Jan. 3 e96
Milwaukee, Wis.—an on-the-spot report ..... May 23 116
NAHB is worried, seeks easier credit ..... Jan. 31 *23
Plattsburg Air Force Base, N. Y. housing project slated ..... June 27 34
Plattsburg, N. Y. prefab home development meets stiff opposition ..... May 30 104
Rough going for housing ..... May 9 e184
Single family houses for less money by the "team" system in Berea, Ohio ..... Jan. 17 (F) *33
Correction. J. E. K. Krylow ..... Feb. 14 10
Stanford, Univ. launches plan to develop 3,500 acres ..... Mar. 21 169
Techniques and trends in buildings and housing ..... Feb. 21 (F) *106
VA bigger direct home loan plan opposed by Treasury ..... Feb. 14 104
Howson, Louis R.—Nominated for presidency of ASCE ..... June 13 *26
Humphrey, George M.—Outgoing secretary—Robert B. Anderson new treasury chief—same money policy ..... June 13 (F) *165

Hydraulic.
Hydraulic jets sink Carquinez caissons ..... Apr. 18 (F) *38
Model to study changes in water table of Lake Worth in Florida ..... Mar. 28 *78

Hydro Electric Power
Alaska plan dropped by Alcoa as Canada balks ..... Mar. 21 62
Argentine government plans 30 water and power projects ..... Feb. 28 58
Bersimis I power generated to Montreal *58
British Columbia outlines plans for hydro projects ..... Jan. 10 60
Brownlee Dam, first of three hydroelectric dams in the Hells Canyon region of the Snake River will be in service by 1958 ..... Feb. 7 (F) *46
Ceylon to get $19 million loan for hydro expansion ..... June 20 94
China—Sanmen Gorge Dam construction underway marks start of Yellow River project ..... June 27 92
Columbia's Laguneta hydroelectric project nears end ..... June 27 *92
Indian projects helped by Canadian government ..... Feb. 28 55
Kafue River, Northern Rhodesia, power scheme shelved for the present ..... Feb. 14 66
Mexico — Tingambato project nears completion ..... Jan. 24 *173
Niagara Falls—Better late than never ..... Feb. 7 e132
Niagara Falls—better late than never —Why public power? G. R. Wadleigh ..... Mar. 28 8
Niagara-Mohawk and Moses agree on new Senate bill ..... Jan. 31 22
Niagara power compromise set ..... Apr. 18 31
Niagara power moves closer to Senate vote ..... June 6 29
Niagara question winds up in court ..... Jan. 10 24
North Carolina—$54 million project planned ..... June 13 174
Pacific Northwest's projects by 1967—forecast by Marshall Blair ..... Jan. 3 26
Paucartambo power for Peru's mines ..... Apr. 18 (F) *86
Puget Sound projects will provide an additional 1.9 million kw ..... Jan. 3 27
Rocky Reach hydroelectric project on the Columbia River—final stage bids called ..... May 16 25
Russia's Bartsk project expected to be world's largest ..... May 30 *61
Sound water-power decisions ..... Feb. 28 e120
Swift hydroelectric project on Oregon's upper Lewis River—highest earthfill dam ..... June 13 *29
Swiss dam taps separate streams for power ..... May 16 *82
Trinity River project—first true partnership proposed ..... Feb. 21 45
Turkey's Sariyar project picks up first load ..... Jan. 10 *60
Jim Woodruff Dam—first power went on the line (maps) ..... Mar. 14 (F) *28

I

Ice—Melting ice air bubbles pumped to surface thaws Arctic lake ..... May 23 66

Industry
Boom in industrial building accents rise in costs (charts) ..... Jan. 3 77
Cleveland—water for industry rules change (map & table) ..... Feb. 28 28
Conference told how to cut construction costs ..... Feb. 21 48
Industry to maintain record spending (chart & table) ..... May 2 21
National Industrial Development exposition is showcase for cities and states seeking industry ..... May 30 104
St. Lawrence power—industry gets the nod ..... Feb. 21 47

Insulation
Does more insulation cut home construction costs? ..... Apr. 11 92
Plastic foam to protect exposed bulkhead faces of monoliths during cold weather ..... Jan. 10 65
Prestressed concrete beams protected by insulated covers at Calgary, Alberta plant ..... Feb. 14 *55

Insurance
Federal Flood Insurance called too high by Hawaii victims ..... Mar. 28 26
Lincoln Tunnel job saved cash ..... May 30 (F) *21
Welfare funds must be paid as well as wages when firm goes broke ..... May 9 139
International Commission on Irrigation and Drainage—Adds flood control to its field of interest and its name ..... May 9 28
International Geophysical Year—IGY: An unprecedented quest ..... June 13 e192

Irrigation
California court ruling on acre-limit to be appealed to Supreme Court ..... Feb. 28 23
Conflicting demands for water exists in humid as well as arid areas. S. B. Morris ..... June 6 (F) 57
Peru's Quiroz Irrigation Project ..... Feb. 14 65
Montana irrigation tunnel costs $152.50 per lin ft (unit prices) ..... Feb. 21 249
Salt River—changes proposed to increase watershed runoff ..... Jan. 10 39
Soil Conservation Service breaks into the big time ..... Apr. 4 (F) *21
Water is where you put it ..... Jan. 31 e96
What to do about a 10-year drought? ..... Jan. 24 (F) *43
Where Israel will pipe Jordan water (map) ..... Apr. 18 (F) *82
World reclamationists expand scope ..... May 9 28
Irrigation see also Canals

• Illustrated; e, editorials; (F) Articles over a page

K

Kinnear, Henry J. Co.—Growing in Canada ... June 27 136

L

Labor

AEC sets hearing on licensing Michigan nuclear plant ... Jan. 3 82
AFL-CIO
Adopts new code of ethics ... Feb. 21 298
Asks wage-price probe ... Apr. 4 152
Beck stands on his legal rights ... Apr. 4 150
Building trade unions in Baltimore absolved in strike ... Mar. 14 116
Land scandal puts AFL-CIO on tightrope ... June 20 (F) *23
Legislative program for labor unveiled at Third National Legislative Conference of AFL-CIO Building Trades ... Mar. 21 (F) *174
Moves against trade union corruption, adopts two new codes ... June 6 179
A new approach to craft union disputes ... Feb. 14 107
Opens teamster hearing; union officially charged with corruption ... May 16 176
Removes Dave Beck from office; John F. English named to the executive post ... May 30 *112
Seeks adoption of federal laws covering safety and compensation on reactor project ... Mar. 7 150
Sets course for 1957 ... Jan. 3 82
States unemployment and compensation laws face overhaul ... Mar. 28 116
UAW intensifies its bid for engineers ... Apr. 18 180
Wrestles with merger problems as building trades limit price of unity ... Feb. 7 136
Welfare fund control ... June 20 154
Apprentice deficit still exists ... Apr. 25 157
Apprenticeship—critical challenge—Eastern Seaboard Apprenticeship Conference puts emphasis on cooperation, education and promotion ... June 13 178
Association lockout sustained by court ... Apr. 11 150
Bill would regulate all funds for employees ... June 6 180
Bricklayers protest use of aluminum curtain wall panels ... Jan. 10 108
Canadians protest use of U. S. labor on government pipeline project ... June 6 180
Collective bargaining
AFL-CIO building trades' settlements show moderate increases and few strikes now prevail ... Apr. 11 150
AFL-CIO predicts sizeable pay hikes are coming (table) ... Feb. 21 297
California contractors take new look at bargaining ... Mar. 21 177
Columbus, Ohio, Bricklayers Local 55 pay tribute to father and son who have contributed a century of service ... May 16 *176
Connecticut legislature tightens welfare funds ... June 6 181
Contracts—one-year contracts slipping ... Jan. 31 80
Don't encourage disunity ... Mar. 14 e132
Drinking fountains. W. J. Mays ... Apr. 11 *87
Engineers
Bargaining by professionals ... Mar. 14 e132
Engineering employees are forming new union—ESG ... June 20 153
Minneapolis-Honeywell group says no to union ties ... May 23 118
1956 salaries compared with engineer earnings in 1930. Arthur Richards (charts & table) ... June 6 (F) 46
Five year labor pacts concluded ... June 27 140
Florida penalizes workers for safety violations ... June 20 154
Homebuilders face a complex challenge ... Mar. 7 (F) 148
Homebuilders in Nashville receive a warning from labor ... May 9 147
Hot-cargo clause — carpenters held guilty of a secondary boycott ... June 6 181
IBEW looks ahead, eyes automation maintenance ... Jan. 17 113
ICC ruling hits use of boycott clauses in teamster-trucker agreements ... May 2 116
Industry promotion—union bricklayers and brick manufacturers sell their products to television audiences ... Jan. 24 268
Jurisdictional disputes
Building trades and industrial unions conflict defies solution ... Mar. 28 117
Burt Co. files boycott charge ... June 20 152
Carpenters can sue F. H. McGraw Co. ... Apr. 11 151
Carpenters vs sheet metal workers—confusion arises over plan. Mar. 14 115
Dallas airport installation of moving sidewalks ... May 2 116
Federal Court of Appeals rules that NLRB must determine jurisdictional disputes on their merits ... Apr. 18 179
Management official proposes plan ... Jan. 24 268
National Joint Board—building contractor, Richard J. Mitchell to head board ... June 13 *179
Right-to-work laws in state court ruling ... Feb. 28 102
Right-to-work ordinance enacted at county-level ... June 20 153
Union-contractor pacts carry a non-strike pledge ... June 20 153
Union organizers test Savannah restrictive ordinance ... June 20 153
U. S. Supreme Court limits state action in right-to-work and hot-cargo disputes ... June 20 154
Violation of union rules no bar to work permits ... Mar. 21 177
Voluntary settlements end disputes at N. Y. Coliseum ... Jan. 3 83
Long-term labor contracts increasing ... May 2 114
Materials and labor prices ... Jan. 3 82
Jan. 10-78, Jan. 17-84, Jan. 24-220, Jan. 31-62, Feb. 7-102, Feb. 14-79, Feb. 21-250, Feb. 28-74, Mar. 7-108, Mar. 14-90, Mar. 21-130, Mar. 28-92, Apr. 4-116, Apr. 11-112, Apr. 18-128, Apr. 25-104, May 2-80, May 9-113, May 16-120, May 23-93, May 30-88, June 6-130, June 13-114, June 20-110, June 27 168
Michigan building trades form a new state council ... Mar. 21-178, June 27 147
National Joint Board for the Settlement of Jurisdictional Disputes—Merrill R. Carr named insulation contractor ... May 16 *174
NLRB protects public construction from secondary boycotts ... Mar. 14 116
NLRB's Leedom urges a change in labor attitude on the part of employers ... May 9 148
Connell, McGuiness get federal labor posts ... Jan. 10 108
Right-to-work bill protested ... Mar. 14 *115
Safety code extended by New York State ... May 16 176
Safety isn't self-propelled—closer cooperation essential ... Jan. 24 271
Safety promotors face big task ... June 6 178
Self discipline urged for labor ... Apr. 11 151
State legislatures tackle controls on labor ... Feb. 14 (F) 21
Strikes
Bricklayers' local faces charge of illegal strike ... Mar. 21 178
Two die in Alabama construction strike ... June 6 *179
Supreme Court refuses to write a no-strike clause into long-term contracts ... Jan. 31 82
Syracuse, N. Y. building trades unions promote color as an accident deterrent ... May 30 113
Taft-Hartley Act
AGC chapter treated as employer ... Feb. 7 137
NLRB refuses to grant immunity ... Feb. 28 101
Plumbers score Taft-Hartley inequities ... June 27 141
Teamster use of "hot cargo" clause is upheld ... May 23 118
Teamsters condemn Beck suspension ... Apr. 25 156
Teamsters hedge on Beck position ... Apr. 11 148
Unemployment compensations
Bill to hike contractors' payments is vetoed in N. Y. ... May 9 146
Jobless benefit coverage is extended in New York ... Jan. 10 108
Plumbers study welfare funds ... Jan. 10 107
Social security up ... Jan. 10 110
Union volunteers aid flood, tornado victims ... June 6 179
Wages
Baltimore strike ends ... May 23 118
Contractors enter wage-price dispute ... Feb. 14 108
Curb asked on wage boosts. Jan. 17 113
Detroit union sets pace with 32 cent pay demand ... Mar. 7 150
Escalator clauses ... May 9 147
Five year pact for carpenters ... May 16 173
High pay demands alarm builders in Calif. ... Feb. 28 101
Homebuilders seek wage solution ... June 20 152
Long-term gains in the making ... Apr. 18 180
Long-term pacts continue ... May 30 112
Negotiations grow tense, strikes stall construction ... May 9 146
Roadbuilding pacts signed ... June 6 178
Substantial wage gains reported by District 50 ... June 6 180
System for engineers' salary administration (charts) ... Jan. 24 50
Wage-hour coverage is extended ... Mar. 21 178
Work injuries mount ... May 9 147
Work-sharing clauses in general use ... Jan. 17 114
Wyoming revisions—disaster insurance plan amends compensation law ... Mar. 7 150

Lakes

Diversions from Lake Michigan ... Jan. 10 e124
Great Lakes dredging (map). June 6 *31
Lake Michigan's diversion won't hurt ... Feb. 21 48
Lake Worth, Florida—hydraulic model will predict channel deepening effect ... Mar. 28 *78
Man-made lakes collect and supply water for plant near Chicago ... May 16 *71
Salt Lake—barges are building a railroad fill (map) ... June 6 (F) *34

Land Reclamation

San Francisco Bay tidelands projects. Utah Construction Co.'s expansion into new fields. Barbara Lamb ... Apr. 11 (F) *24
Port of Seattle ready to create industrial land ... May 30 28
World reclamationists expand scope ... May 9 28

Landslides

Longest rock anchor bolts ever used ... Feb. 14 *36
Longer anchor bolts. J. B. Dotterer ... Mar. 21 16
New York Thruway—weather drops tons of rock on Thruway. Feb. 28 *27
Legal decisions. I. V. Werbin ... Jan. 10 Jan. 24-182, Feb. 7-96, Mar. 7-91, Mar. 21-109, Mar. 28-86, Apr. 4-101, Apr. 11-105, Apr. 18-111, Apr. 25-99, May 2-77, May 9-101, May 16-114, May 30-69, June 6-115 ... June 13 98

Lights and Lighting

Ceiling in offices is translighted in new Seagram building. June 13 (F) *21
Connecticut Turnpike section will be completely lighted by mercury luminaires ... Jan. 24 28
Mercury vapor lights credited with saving at St. Lawrence ... Jan. 24 *107

Locks

Cote Ste. Catherine lock contractor is staying ahead (map) ... Feb. 28 (F) *32
Kookuk Dam, Iowa, lock will eliminate serious bottleneck to traffic on the Upper Mississippi Waterway ... Apr. 4 *28

M

MacDonald, Thomas A.—Road expert dies, was head of BPR for 34 years ... Apr. 11 24
Machines—Share this complaint. J. H. Krepchin ... Feb. 28 30
Mathematical Calculations—Spandrels of circular arcs. Paul Pennington (tables) ... Feb. 21 *240
Mavis, F. T.—New dean at University of Maryland ... May 2 70
Mayflower II—Reproducing history ... June 20 e168
McGraw, F. H. & Co.—Contractor becomes developer ... June 20 30
A cost system that pays off fast ... June 20 (F) *147
Merryfield, Fred—AWWA president ... May 23 *84
Meyer, H. C. Jr.—Consultant, was son of ENR founder, dies ... June 27 96
Microfilm—Steady flow of prints from microfilm ... June 13 *72
Minton, Brig. Gen. Augustus M.—Air Force will shift top engineer officers ... May 2 (F) *46

Models

Hydraulic model will predict channel deepening effect—study inlet to tidal lake in Florida ... Mar. 28 *78
Jackson, Miss. Waterways Experiment Station—rivers turned out on assembly line basis ... May 16 (F) *34
St. Lawrence area models put in operation ... Feb. 14 59
Monorails see Transportation
Monuments—Portugal—wall 350 ft high honors explorer ... Jan. 24 *179
Moving—Four-story warehouse journeys half mile to new site ... June 27 (F) *72
Municipal Problems see Cities, Planning

N

National Association of Home Builders Labor Relations Committee conference ... Mar. 7 (F) 148

* Illustrated; e, editorials. (F) Articles over a page

National Committee of the Voluntary Home Mortgage Credit Program—Five new members are appointed ....Feb 7 192
National Merit Scholarship Corp.—Industry ups merit awards for high school graduates ....Mar *
National Society of Professional Engineers—Spring convention at Charleston, S. C. debates future engineer standards ....Feb 21 46
Noble, Charles M.—Takes over Ohio road post ....Jan 31 32
Nuclear Congress—Civil engineer's role in nuclear engineering highlighted ....Mar 21 (F) 28

O

Oil Refineries—Shell Oil Refinery spares the Mississippi its wastes. Russell & Wenger (table) ....May 30 (F) *39

P

Parking see Garages; Street Traffic

Pavements

Airports
Detroit Wayne Major Airport paves taxiways and apron (unit prices) ....Mar 21 128
Ft. Worth's Carter Field runway will be lengthened for jets ....Mar 7 22
Ft. Worth, Tex. airport extends instrument runway (unit prices) ....May 2 28
Fort Worth's Carter Field runway will be lengthened for jets—Bigger than in Texas A. W. Brown ....Apr 4 19
Ft. Worth's Carter Field runway will be lengthened for jets—Cheap runway extension? Melvin Berkowitz ....Apr 4 19
Grand Forks, N. D. air base to get 12,350 ft concrete runway. Apr 4 26
Grand Forks, N. D. air base to get 12,350 ft. concrete runway—Specifications corrected. G. O. Claussen ....June 6 10
Jet age won't outmode U. S. airports ....May 23 (F) *23
Langley Air Force Base paving complicated by swamp (unit prices) ....Apr 18 124
Michigan Airport paves taxiways and apron (unit prices) ....Jan 10 76
Paver puts down asphalt over wire fabric at Houston's International Airport, saving million ....Jan 24 *67
Asphalt paving classification to end mix confusion (chart) ....Feb 28 24
Jointless concrete pavement tested ....May 16 (F) *88
Paving train lays two lanes of concrete on old road by special finisher ....Apr 25 (F) *39
Quick, cheap asphalt surface treatment (table) ....Jan 31 (F) *39
Steel replaces stone on New York curbs ....Feb 7 (F) *45
Test track for Ford Motor Co.—tough on builders and autos. May 23 (F) *56
Tricky problem of placing pavement almost directly on the rock sub-base for Cross Bronx Expressway (map) ....May 16 (F) *18
Penstocks—Brownlee Dam on the Snake River—fast-moving penstock liner assembly line ....May 16 *25

Photography

Automatic linkage of photogrammetry and electronic computer go into operation as Ohio mechanizes highway design ....Mar 14 (F) *37
High-speed photography, a tool used in studies at the Waterways Experiment Station at Jackson, Miss. ....May 16 *58
Photogrammetry as an aid to public relations ....Mar 14 22

Piles and Pile Driving

Formwork for casting pile caps built directly over piles to be incorporated in oil dock ....May 9 (F) *34
Jackets of creosoted wood protect concrete piles R. H. Mann. Feb 14 (F) *41
Rail piles show unusual strength and rigidity ....Jan 10 *85
Rail pile information is delivered R. J. DeLaHunt ....Feb 21 *8
Rail pile information is requested L. W. Huncke ....Feb 21 *8
San Francisco airport—pile load test during an earthquake ....Apr 25 *32

Pipes and Pipelines

ASCE group seeks standard for pipeline crossings ....Apr 18 34
Aluminum pipe adjustable to change in ship position used for unloading oil ....May 9 (F) *34
Big pipe caissons go 135 feet down at San Francisco shipyard. June 6 (F) *61
Concrete Pipe Committee approves new design idea for sewer and culvert pipe ....Jan 3 28
Connecticut water main bids show wide spread (unit prices) ....June 13 113
Four Corners area pipeline work to start in spring ....Mar 7 144
Italy's underwater pipeline links mainland to Ischia island ....Feb 21 132
Longest unwrapped aluminum gas line for Alcoa's Point Comfort, Tex. plant ....Jan 10 *26
Louisiana water line with stream crossings (unit prices) ....May 16 119
Main water line with section through swamp (unit prices) ....May 30 85
Oregon water line takes alternate bids unit prices) ....May 23 90
Pacific Northwest Pipeline plans four natural gas lines ....Mar 7 32
Plastic pipe promotion ....Jan 24 208
Prestressed concrete pipe for water main, Virginia (unit prices). Jan 31 61
Raritan Bay, N. J.—big pipe is laid like submarine cable ....Feb 28 (F) *24
Topock, Ariz.—gas line swings over the Colorado ....Apr 4 *27
Trans-Canada pipeline 1957 schedule mapped out ....Mar 21 34
Water pipeline to Huron gets to final plan stage ....June 27 28
Where Israel will pipe Jordan water (map) ....Apr 18 (F) *82
Wooden pipe uncovered in Los Angeles ....May 16 *24

Planning

Baltimore creates new agency to carry out 20-year, $900-million urban renewal program ....Jan 17 109
Boston, Mass. plans $100 million redevelopment for Back Bay section ....Feb 14 *24
Boston, Mass. Combine plans $30-million commercial development in area cleared through urban renewal program ....Jan 24 *264
Boston, Mass.—Prudential land deal could touch off boom in Boston's Back Bay ....Jan 31 75
Chicago voters to weigh $113 million bond issue ....Apr 25 (F) *45
23 issues approved ....June 20 150
Cleveland, Ohio, suburb Berea "team" system of construction single family houses ....Jan 17 (F) *33
Dallas, Tex. city-within-a-city rising ....Mar 28 (F) *45
New York's Idlewild Airport—building today for tomorrow's airport ....May 2 (F) *30
New York skyline altered by office-building boom ....Jan 17 (F) *10
New York City's Grand Central area may get a $100-million office center ....Jan 31 *73
Philadelphia, Pa. big slum clearance projects ruled out, cost too high ....Mar 14 112
Philadelphia gets federal funds for urban renewal ....Apr 11 25
Providence, R. I. industrial development project ....Feb 7 25
Roads too important to be planned by engineers alone, city planners should be heard too ....Apr 4 33
Sacramento, Calif. redevelopment pays its way (map) ....Apr 25 (F) *30
Washington, D. C. may get huge cultural center ....Feb 7 *27
Plant Location—Industrial sites—first national exposition is showcase for cities and state seeking industry ....May 30 104

Plastics

ASTM group to set standards for cellular plastics ....Mar 7 88
Foam for mass concrete insulation ....Jan 10 65
House made of plastics passes load tests ....Feb 14 *25
House of plastics erected with large sandwich panels forcasts things to come ....June 20 (F) *28
Laboratory for Monsanto Chemical built almost completely of plastics ....June 20 (F) *56
An architect's view of plastics B. H. Bradley ....June 20 58
A contractor's view of plastics W. H. Cunliff ....June 20 59
Polyethylene film as vapor barrier ....Apr 11 *88
Sewer tunnel will be vinyl-plastic lined to prevent deterioration of concrete due to gases ....Apr 4 (F) *46
Plywood—Fir plywood market firms—orders set 15 week record ....Apr 25 124
Price fix charged—Douglas fir plywood wholesalers are indicated in Detroit ....June 6 25

Ports and Harbors

Africa—concrete-block deepwater quay in Belgian Congo sets height record ....May 2 *4
Baltimore, Md.—$100 million port work advised ....June 20 33
Baltimore port surveyed for general cargo piers ....Apr 11 23
Detroit and Rochester study plans for port development ....Jan 10 23
Erie, Pa. picks site for new lake port development ....June 6 32
India-Kandla port construction enters into final phase (map) ....Apr 4 26
Lebanon port expansion to be financed by private funds ....June 20 30
Mississippi Ports Authority suggested ....Apr 25 134
Montreal, Can.—millions earmarked for improvements ....June 6 32
New York—drive aimed to keep N. Y. port on top (map) ....June 6 (F) *66
North Carolina ports' expansion recommended ....Feb 28 27
Peru port plan—$10 million to be spent on the Pacific port of Callao ....Jan 24 134
Port of New York Authority spends $84 million and commits $50 million for airports, tunnel, piers in N. Y., N. J. ....Mar 28 109
Rota—key to U. S. bases in Spain H. W. Hunt (map) ....Mar 14 (F) *31
San Francisco launches $12-million port expansion program ....Jan 31 28
Seattle—port of Seattle to create Industrial land ....May 30 28
South Carolina port plan beginning to take shape ....May 30 29

Power and Power Plants

Brownlee Dam to be rushed into service ....Feb 7 (F) *16
Canada—Bersimis I power generated to Montreal ....Jan 17 *18
Dresden A-plant due for construction in spring ....Jan 3 *26
Dresden A-plant footings designed to hold a 190 ft sphere ....June 6 *25
GE atom lab to feed PG&E power ....June 6 *22
Germans build pumped power storage scheme ....Mar 7 *61
Great Britian awards contracts for three more nuclear plants. Jan 24 *176
John H. Kerr Dam powerhouse gets centralized controls ....Apr 18 *24
Niagara Falls—Better late than never ....Feb 7 e152
Niagara-Mohawk and Moses agree on new Senate bill ....Jan 31 22
Niagara Power compromise set ....Apr 18 31
Northwest seen ready for steam power—Seattle steam plant passes economy test ....Feb 14 28
Paucartambo: power for Peru's mines ....Apr 18 (F) *86
Private vs. public power Ben Morcell ....June 27 6
Puget Sound power projects will provide an additional 1.9-million kw ....Jan 3 27
St. Lawrence power claims dropped by Mass. and N. H. ....Jan 31 24
St. Lawrence Power project—four separate concrete plants for four major structures H. H. McLean ....May 9 (F) *47
Trinity River project—first true partnership proposed ....Feb 21 45
Trinity River project proposal questioned on power costs ....May 16 23
What's different about building atomic power plants? W. J. Grady ....Feb 14 (F) *14
Tracy, George W. West Coast water official retires after long service ....Apr 11 97
Preston, Everett S.—Ohio's Preston takes a look ahead ....Mar 14 *81
Print machine—Steady flow of prints from microfilm ....June 13 *72

Public Relations

Air photos help public to understand road plans ....Mar 14 22
California program will explain highway jams ....May 16 24
Ford Motor donates land for use as college campus ....June 27 136
Line-of-duty criticism by officials held libel-free ....June 20 150
Public relation, on roads ....Mar 21 e192
Public relations on roads—Public relations J. G. Kneiling ....May 9 10

Public Works

Another big year of federal spending (table) ....Jan 10 21
Chicago's filtration plant—substructure goes at $10 million ....Mar 7 *26
Chicago voters approve 23 issues for public works program ....June 20 150
Chicago voters to weigh $113 million bond issue ....Apr 25 (F) *45
Congress seeks cure for lease-purchase ....Feb 28 *94
Connecticut Public Works Dept. releases revised State Building Code ....Mar 7 33
False doctrine ....June 6 e196

* Illustrated; e, editorials; (F) Articles over a page

Federal budget analysis shows construction will take a big bite (table) Jan 24 46
Los Angeles County maps $311 million program ..... Apr 11 141
Michigan colleges get gift campuses Jan 10 *106
Phoenix, Ariz. bond issue to finance program without tax increase ..... June 13 174
Schools
Arcadia Research Project School, Calif.—new way to build roof shell without falsework Mar 14 (F) *46
Awards up ..... Apr 4 145
Detroit, Mich. plans tax boost to pay for new schools ..... Feb 14 101
Florida votes school funds ..... June 20 148
Forming a thin-shell roof for a Seattle classroom building ..... May 9 (F) *45
New Rochelle, N. Y. high school features paired classrooms ..... May 2 *32
New York school prices (unit prices) ..... May 2 78
North Haven, Conn. twin schools show a 26% price rise in two years (tables) ..... Apr 25 (F) *65
Pennsylvania sets up new bureau to speed program ..... Jan 3 80
Standardized schoolhouse package includes financing ..... Feb 28 (F) *96
State legislatures tackle construction ..... Feb 14 (F) 21
Washington State's $100 million public works program ..... Apr 4 146
Watch out for false economy ..... Mar 7 e164

Pumps and Pumping

Better water with floating pump house near Nashville, Tenn. ..... June 13 (F) *68
Harlem Hospital, N. Y.—pumps and weight keep hospital out of hot water ..... June 20 (F) *46
New York's Hudson River pumping plant—No more water needed? ..... Jan 31 e96
Philadelphia sewage pumping stations discharge valves operated electrically ..... L. Kusner ..... Apr 4 (F) *59

R

Radar—U. S. radar warning net construction from Alaska to Umnak Island ..... June 13 *30

Rail and Water Terminals

B & O starts construction of $4 million fruit pier in Baltimore ..... Apr 25 29
Philadelphia's Hog Island is becoming a major oil terminal (map) ..... May 9 (F) *34
San Francisco—Harbor Board asks ODM for terminal loan ..... Mar 28 30
Seven waterfront areas are keys in a spectacular drive aimed to keep New York port on top (map) ..... June 6 (F) *66

Railways

Building a railroad fill over Salt Lake (map) ..... June 6 (F) *34
"Do-it-yourself" attitude urged for solving the problems of manpower and meeting competition ..... Mar 14 24
Long Island RR—bridge constructed and connected to make room for 4 lane highway without serious disruption of train schedules ..... Mar 7 (F) *46
Source omitted correction ..... Mar 14 10
Rhodesia railways getting $12 million control system ..... Mar 21 68
Wyoming railroad link surveyed to new iron ore mine near Atlantic City ..... May 16 32

Rainfall and Runoff

Denver, Colo., lifts watering restrictions for first time in 3 years ..... June 27 29
Does cloud seeding help? Scientists seek answer ..... Mar 21 90
Portland, Ore.—plastic sheeting over rainsoaked soil protects against slides ..... Mar 28 *35
President Eisenhower ponders what to do about a 10-year drought ..... Jan 24 (F) *43
Rainfall histories from tree rings? N. A. Bowers ..... Mar 7 (F) *53
Salt River, Ariz. watershed study—how to reap added runoff ..... Jan 10 39
Watershed treatment F. D. Steiner ..... Feb 21 20
Texas maps give the statistical probabilities of rain ..... Apr 4 51
Tree rings and rainfall ..... Mar 7 e164
Water is where you put it ..... Jan 31 e96
Real Estate—Major Canadian relator fails; tight money blamed ..... Jan. 24 263

Research

ASEE speakers call research a must for educators ..... June 27 *27
Army develops detector for locating crevasses ..... Apr 11 90
Awards goes for studies on stream reaeration ..... May 9 85
Beach erosion gets spotlight ..... June 13 88
Canal building materials are tested ..... Mar 21 *89
Chicago waterworks chief reports on development ..... Apr 25 84
Delaware River quality survey to set stream health "yardstick" ..... Mar 7 88
Dissolver for quicksand lowers fluoridation cost ..... Mar 7 88
Does cloud seeding help? Scientists seek answer ..... Mar 21 90
Does more insulation cut homes construction costs? ..... Apr 11 92
Foaming sewage—study finds detergents not necessarily to blame ..... Feb 14 59
Fresh from salt at $.12 per 1,000 gallons (charts) ..... Feb 14 59
Fuel and explosive—job-mixed blasting agent tried on Canadian work ..... June 20 89
German industry develops one-pass road maker ..... June 27 (F) *81
Hexadecanol, or cetyl alcohol, film to slow evaporation is slated for more tests ..... Apr 25 85
How much digester liquor can trickling filters take? ..... Jan 24 208
Investigation as to why buildings on clay foundations settle ..... Apr 18 101
Mobile laboratory does on-the-job soil testing ..... May 9 *80
NAHB builds test house for research on materials ..... Apr 18 101
Philadelphia water agency pushes electronics research ..... June 27 34
Pickle-liquor treatment recovers 50% of spent acid ..... Jan 24 208
Plastic pipe promotion ..... Jan 24 208
Rainfall histories from "tree rings" N. A. Bowers ..... Mar 7 (F) *53
Texas A and M plans research on construction ..... Mar 7 88
Total bacteria treatment sought for sewage plant ..... Mar 28 78
Tree rings and rainfall ..... Mar 7 e164
USGS gages groundwater seepage to surface streams ..... Apr 18 101
Ultra-high-strength steel developed by NBS ..... June 20 89
Water sample every hour by machine ..... Apr 11 *90
Research see also Highway Research

Reservoirs

Atoka Reservoir is being constructed by Oklahoma City (map) ..... Apr 11 27
California—old concrete reservoir gets shining new lining, will hold ammonium nitrate for Hercules Powder ..... Apr 4 *25
Croton Reservoir—grout makes damaged spillway sound ..... Jan 31 (F) *35
Germans build pumped power storage scheme ..... Mar 7 *61
Kansas City, Kan.—hyperbolic paraboloid roof is cheaper ..... Apr 11 (F) *51
Missouri River dilemma ..... June 13 e192
North Carolina—Piedmont region water plan meets sewage need (map) ..... May 16 30
Oahe Reservoir's spillway excavation (unit prices) ..... Mar 14 88
Oklahoma City starts on five reservoir program ..... Jan 3 26
Peru's Quiroz Irrigation Project ..... Feb 14 *65
Raritan River—proposed reserviors at Spruce Run and Stony Brook (map) ..... May 23 26
Rattlesnake Reservoir, Colo. will test hexadecanol to slow evaporation ..... Apr 25 85
Record-size prestressed concrete reservoirs for Reading, Pa. ..... June 20 (F) *68
Salt River, Ariz.—changes proposed to increase watershed runoff ..... Jan 10 39

Rivers

Apalachicola River system in Georgia, Alabama and Florida—a multipurpose river system is born (map) ..... Mar 14 (F) *28
Delaware River—before deepening begins jet-probes will explore river bottom ..... Apr 12 (F) *48
Delaware River—motorboats to chase tide to get facts on river's sanitary and chemical qualities ..... Mar 28 78
Delaware River quality survey to set stream health "yardstick" ..... Mar 7 88
Kafue River, Northern Rhodesia power scheme shelved for the present ..... Feb 14 66
Kosi River project approved by U. S. experts ..... Feb 14 66
Mississippi Basin model taking form at Jackson, Miss. ..... May 16 (F) *54
Missouri River dilemma ..... June 13 e192
Missouri River levee riprap is kept free of vegetation ..... Apr 25 *88
Missouri River's Jackass Bend to get 1.7-mile-long cutoff ..... Jan. 31 *24
Missouri River shipping delayed ..... Mar 28 27
Ohio River—Tributaries in flood ..... Feb 7 *25
Raritan River—state water plan revealed (map) ..... May 23 26
St. Lawrence—Long Sault on the International Rapids tamed by coffer dam ..... May 2 *28
Savannah River—indoor model at Jackson, Miss. Waterways Experiment Station ..... May 16 (F) *54
Techniques and trends in river use and control (map) ..... Feb 21 (F) *150
Where Isreal will pipe Jordon water (map) ..... Apr 18 (F) *82
Yadkin River, N. C.—water plan meets sewage need (map) ..... May 16 30
Rogers, Harry S.—President of Brooklyn Polytechnic Institute dies ..... June 13 30
A great educator ..... June 27 e158
Rogers, Lester C.—The ACEC's new president ..... Mar 21 *99

Roofs and Roofing

Australian Academy of Science in Canberra—thin-shelled concrete dome will be covered with copper ..... June 6 *102
Belgium building theme of 1958 fair reflecting the "peaceful use of the atom" ..... Feb 21 *234
Bologna, Italy, stadium has a dome roof framed with trussed arches fabricated from tubular steel structurals ..... Apr 4 *74
Boston engineers are replacing the thick concrete arch roof of subway with a flat roof ..... May 16 (F) *62
Bozeman, Mont.—State College's new field house roof has biggest timber-framed dome ever built ..... Jan 10 (F) *32
Concrete roof panels for Los Angeles warehouse prestressed at on-site plant H. R. Reuter ..... Apr 18 (F) *58
Concrete roof supplants tent for summer theater, Stratford, Ont. ..... June 27 (F) *90
Concrete umbrella (hyperbolic paraboloid) roofs on Mexico City's new buildings W. G. Bowman (table) ..... May 16 (F) *36
Cylindrical roof deck of Annapolis field house is wood-fiber-concrete plank covered with copper ..... May 30 *25
Dome of aluminum covered with translucent plastic outstanding feature of U. S. exhibit at Polish Fair ..... May 2 *84
Farmingdale, L. I. timber building had headroom increased by cutting the ties of the wood arches and transferring the loads to steel frames erected above the roof Alfred Zweig ..... May 2 (F) *40
Forming a thin-shell roof for a Seattle high school building ..... May 9 (F) *45
Hyperbolic paraboloid roof for Argentine reservoir in Kansas City, Kan. ..... Apr 11 (F) *51
Largest cantilevers to support roof hanger at San Francisco airport ..... Feb 21 *46
Which holds the record? B. G. Anderson ..... May 9 12
Lift-slabs connected to precast columns at Wingate Junior College, N. C. ..... June 27 (F) *69
Light-gage panels form a 145 ft frameless dome for Waikiki, Hawaii auditorium ..... Feb 14 (F) *26
New way to build roof shell without falsework ..... Mar 14 (F) *46
New York City arena roof will span 1,080 ft ..... Feb 21 *47
New York International Airport will have elliptical suspended roof ..... Apr 11 *25
Oslo symposium to cover concrete shell roofing ..... Mar 7 64
Precast arches form gym roof at Daly City, Calif. ..... Jan 31 (F) *45
Precasting 35 acres of roof panels for warehouse near Sacramento, Calif. ..... May 30 (F) *42
Prestressed beams span 100 ft to support roof of Lafayette market building in Baltimore ..... Mar 14 *26
Rome, Italy—Concrete dome of sports arena will be partly precast ..... Apr 25 *83
Thin-shelled concrete domes—new design concept for church roofs ..... June 20 (F) *43
Undulated thin-shell hanger roof spans big bays at Larson Air Force Base, Wash. ..... Mar 7 (F) *44
Wood cantilevers support arena roof in San Francisco ..... Jan 3 (F) *45
Rubber—Prestressed beams for bridges are seated on neoprene rubber bearing plates J. R. Graves ..... May 16 (F) *67

S

Safety

AFL-CIO seeks adoption of federal laws covering safety and compensation on reactor project ..... Mar 7 150
Closer cooperation of labor, industry and government for more effective safety promotion work ..... Jan 24 271
Color in safety promotion ..... May 30 113
Constant caution is key to low accident rate in Missouri River Basin ..... Apr 18 96

* Illustrated; e, editorials; (F) Articles over a page

Construction industry is fifth worse in nation in disabling accidents, deaths ..... Apr 18 27
Florida penalizes workers for safety violations ..... June 20 154
Lincoln Tunnel job saved cash ..... May 30 (F) *21
New York construction industry sees need for new approach ..... June 6 178
New York State seeks to afford protection to workers in heavy construction ..... May 16 176
Nursing homes are unsafe NFPA manager charges ..... June 6 27
Reactors called safe—Strauss of AEC points to good safety record ..... Apr 4 155
Scaffolding safety practices ..... Feb 21 *239
Work injuries mount—number increases but injury drops as industry seeks curbs ..... May 9 147
Safety see also Fire Protection, Highway Safety

Sanitation

ENR conference on lateral sewers—concern over growing number of new septic tanks and cesspools ..... Jan 17 (F) *46
Moriches Bay, L. I. waters polluted by duck farms are clean enough, so that oyster grows again ..... Mar 28 (F) *43
New York City refuse disposal—$80 million program passes halfway mark ..... Apr 25 68
Techniques and trends in water supply and sanitation ..... Feb 21 (F) *190
Srevane, Paul R.—Appointed commissioner of New York City Sanitation Dept. ..... Feb 21 *242
Seawalls see Shore Protection
Seaways see waterways

Sewage Treatment

Allocations escape budget cutters (table) ..... Apr 11 24
Atomic sewage treatment is technically feasible ..... June 27 104
Chanute, Kan. reuses its sewage during water emergency ..... Ja 16 26
Cincinnati's sewage plant reaches halfway mark ..... Mar 21 *29
Corpus Christi, Tex.—two plants turn sludge to fertilizers with rotary dryers ..... June 27 (F) *82
Denver tries sewage flotation ..... June 6 28
Excessive frothing—study finds detergents not necessarily to blame ..... Feb 14 59
Federal aid for sewage totals $3.8 million ..... Feb 21 50
Federal aid—Where to draw the line ..... Feb 14 e124
Gallipolis, Ohio, forced by Orsanco, to act on needed sewage works ..... Apr 11 23
Gallipolis, Ohio, pressured on pollution ..... Mar 7 26
Hampton Roads district asks state approval for private sewage works ..... Jan 10 27
Homebuilder contracts for suburban sewerage in Phoenix ..... Mar 14 24
Hoover Dam plant to serve tourist population ..... Jan 10 25
Kansas sewerage system gets heavy bidding (unit prices) ..... Feb 21 249
Laterals now, trunks later—concern over growing number of septic tanks and cesspools discussed at ENR conference ..... Jan 17 (F) *46
Laterals now, trunks later F. E. Wegner ..... Mar 28 8
Laterals now, trunks later N. A. Connor ..... Feb 28 10
Los Angeles' Hyperion sewage plant bid ..... May 23 28
N. J. small sewage plants make gains ..... Mar 21 30
New Orleans, Columbia, S. C. and Tacoma, Wash. get results of water studies ..... Mar 28 30
Ohio Basin sewerage programs sustain drive for pollution-free waters ..... Apr 18 30
Philadelphia sewage pumping stations discharge valves operated electrically L. Kusner ..... Apr 4 (F) *59
Philadelphia signs contracts for sewage from the suburbs ..... Jan 10 25
Pittsburgh, Pa. $80 million project construction work slow but sure ..... June 13 *84
Pittsburgh's sewerage project shapes up (map & table) ..... Apr. 11 (F) *46
Source like story, J. F. Laboon ..... May 16 10
Portland, Me. plans $9 million sewage project ..... May 30 106
Raritan Bay's N. J., big outfall pipe is laid like a submarine cable ..... Feb. 28 (F) *34
Reuse urged as water saving ..... Apr. 11 *33
San Diego engineer groups urge choice of local firm for proposed plant ..... Feb. 14 22
San Francisco Bay cities are on the threshold of winning the pollution battle ..... Jan 3 23
San Jose, Calif. two-process sewage plant ..... Feb. 14 (F) *48
Single home sewage plant ..... Mar. 7 *71
Total bacteria treatment sought for sewage plant ..... Mar. 28 78
Treatment process for small plants ..... May 2 *33

Sewers

ENR conference on lateral sewers ..... Jan. 17 (F) *46
Fremont, Indiana — sanitary sewers priced by depth (unit prices) ..... June 27 106
Los Angeles—new shields speed tunneling through sand ..... Apr. 4 (F) *46
Louisville, Ky., extends main sewer (unit prices) ..... June 20 109
Maryland sanitary sewer jacked under siding (unit prices) ..... June 13 113
Maryland sewer extension (unit prices) ..... Mar. 28 89
Missouri sanitary sewer includes tunnel section (unit prices) ..... Apr. 4 114
Pittsburgh, Pa. $80 million treatment plant and intercepting sewers project slow but sure ..... June 13 *84
Pittsburgh's sewerage project shapes up (map & table) ..... Apr. 11 (F) *46
San Diego engineer groups urge choice of local firm for proposed sewer system ..... Feb. 14 22
Waukegan, Ill. sanitary sewer crosses golf courses (unit prices) ..... Jan. 31 61

Shopping Centers

Atlanta, Ga. $32 million shopping center planned ..... May 30 *110
Venezuela — Caracas "Helicoid" shopping and business center will wind around hill ..... Apr. 25 *83

Shore Protection

Added benefit for beaches ..... May 30 e132
Beach erosion gets spotlight—feeding beaches big problem ..... June 13 88
Florida beach erosion lab planned ..... Mar. 28 79
Tetrapods—four legs against the sea; first installation in U. S. underway at Crescent City, Calif. and in Kahului Harbor, Hawaii. Mar. 21 (F) *46
Snow—Swiss eye snow removal by electricity ..... May 16 *84
Society for Non-destructive Testing—Metals Congress announced ..... Feb. 14 38

Soil Mechanics

Air-cooled foundations keep permafrost ground frozen in Arctic, Waldo Bowman (map) ..... Feb. 7 (F) *30
Mobile laboratory does on-the-job soil testing ..... May 9 *80
Silt swallows up half the cost of $5 million bridge for Connecticut Turnpike ..... May 30 (F) *46
Solar heating—Design contest for solar-heated home ..... Apr. 25 28
Southern Municipal and Industrial Wastes Conference — Raleigh meeting hears sewage reuse urged as water saving ..... Apr. 11 *33

Specifications

CSI aiming at better specifications ..... May 16 (F) *21
CSI reviews "tight specs" ..... May 23 23
Substitute for "or equal" ..... May 9 e164
Substitute for "or equal"—Bid alternates impractical. Matthew Spiesman ..... June 13 8

Stadiums

Annapolis to dedicate new field house ..... May 30 *25
Bozeman, Montana State College's field house—biggest wood dome spans 300 feet ..... Jan. 10 (F) *32
Daly City, Calif.—precast arches form gym roof ..... Jan. 31 (F) *45
Italy—Bologna stadium framed with steel pipes ..... Apr. 4 *74
Italy—Rome sports arena's concrete roof will be partly precast ..... Apr. 25 *82
New York City arena—legislators veto plans ..... Apr. 11 23
New York City arena will span 1,080 ft ..... Feb. 21 *47
San Francisco park department field house — wood cantilevers support arena ..... Jan 3 (F) *45
Stratford, Ont., Canada—conical folded-plate form concrete roof supplants tent for summer theater ..... June 27 (F) *90
Waikiki, Hawaii auditorium—light-gage panels form a 145 ft. frameless dome ..... Feb. 14 (F) *26

Standardization

ASCE group seeks standard for pipeline crossings ..... Apr. 18 24
ASTM group to set standards for cellular plastics ..... Mar. 7 88
New standard wind-load requirements. J. P. Thompson (map & tables) ..... Feb. 14 (F) 33
New standard wind-load requirements. Revised shape factors. H. S. Saffir ..... Mar. 4 10
Standard plans for highway bridge superstructures, new ed. published by BPR, Penna. Highway Dept. completed similar publication ..... Jan. 24 45

Steel

AISC explores engineering advances ..... June 6 26
Code remiss on web steel. Louis Balog ..... Feb. 21 20
Designing structural steel by the plastic theory. F. S. Merritt (charts) ..... Apr. 4 (F) 38
German steel sheet piling for bulkhead at Houston wharf—Correction: Luxembourg steel in Houston wharf ..... Jan. 17 82
Government rejects applications for fast amortization ..... Jan. 3 80
Hope for more steel ..... Jan. 3 e36
Kaiser steel expansion pegged to growth of West ..... June 20 *30
Prefabricated houses have light-gage steel framing ..... Jan. 31 *23
Rail pile composed of three used rails is one way to beat a shortage ..... Jan. 10 *64
Shortage will get worse in 1957, despite the fact mill capacities are increasing to a record 133 million tons this year (chart & table) ..... Jan. 31 *21
Steel replaces stone on New York curbs ..... Feb 7 (F) *41
Structural steel bridges built fast on Oklahoma's northeastern turnpike. D. E. Stevens ..... Jan. 3 (F) *32
Two-story frame requires less steel when plastic design is used successfully. Prof. D. T. Wright ..... Apr. 11 (F) *59
Ultra-high-strength steel developed by NBS lab ..... June 20 89
U. S. Air Force Academy, Colorado Springs, Colo.—steel (unit prices) ..... Feb. 14 78
Uranium plants in Canada create new steel market ..... Feb. 21 *288
Welded structural steel, sheathed in stainless steel, stand outside of curtain walls of 19-story office building in Chicago ..... Jan. 10 (F) *42
Stilling basin — Platte Valley PP&ID, Neb., constructing unique gravel trap to remove threat to siphon. June 27 *104
Stone & Webster—Growing in Canada ..... June 27 138

Street Traffic

Boston—tunnel cut through city without interrupting traffic. Jan. 10 (F) *36
Brussels traffic solution spurred by World Fair (map) ..... May 30 (F) *58
Jacksonville, Fla.—breaking a traffic bottleneck ..... Mar. 7 (F) *38
New York City projects will cost $125 million ..... Feb. 21 42
Parking
Brazil builds novel garages in Rio and Sao Paulo ..... June 6 *101
Cincinnati—Ohio Supreme Court approves meter revenues for off-street parking plan ..... Jan. 10 28
Jacksonville, Fla. waterfront parking lot cave-in blamed on underwater erosion ..... Jan. 3 27
New York garage will satisfy strict code ..... Apr. 4 *26
Ohio court says highway funds can't be used for parking garage in Toledo ..... Mar. 28 113
Wilmington has big plans to combat parking problems ..... Jan. 10 25
People and traffic ..... May 30 e132
Philadelphia plans to end main street runs for transit ..... Jan. 24 48
Rapid mass transit—a prime U. S. need ..... June 6 (F) *28
Rapid transit boosted as answer to city congestion ..... May 23 28
San Francisco-Oakland Bay Bridge capacity to be raised ..... May 9 28
Traffic Engineers Award is offered for research ..... Apr. 18 26
Streets — Brussels — overhead roadways with streetcars under the elevated structures offer more vehicle space (map) ..... May 30 (F) *58
New York City—Manhattan's West Side Express Highway to get major improvement ..... Feb. 7 24

Subways

Argentina's second city, Rosario, plans nation's 2nd subway ..... Jan. 17 60
Boston engineers are replacing thick concrete arch roof of subway with a flat roof ..... May 16 (F) *62
New York City rail loop seen as transit need (map) ..... May 30 24

Surveys and Surveying

Are land surveyors engineers? Mar. 21 34
Are land surveyors engineers?—Surveyors are engineers. G. E. Gever ..... May 16 10
Horizon camera can aid plane table surveys ..... May 23 *72
Microwave radio system used for long distance measurement (chart) ..... May 30 *80
Ohio mechanizes highway design ..... Mar. 14 (F) *37
Sverdrup, Leif Johan—Civic honors for a general ..... Apr. 4 *89

* Illustrated; e, editorials; (F) Articles over a page

T

Tallamy, Bertram D: Gets unanimous vote as Highway Administrator ... Feb. 7 *24

Tables and Standpipes: Twin record size prestressed tanks for Reading, Pa. ... June 20 (F) *68

Taxation

Detroit, Mich., plans tax boost to pay for new schools ... Feb. 14 161 *
Oklahoma passes gas tax to pay for flood damage ... June 20 32
Several states move to aid transportation lines ... June 13 29
Steel won't get tax aid ... Jan. 3 80
Virginia must boost gas tax to finance highways ... Feb. 14 99
Telescope: Bids asked for building 140-ft radio telescope ... June 6 *29
Television—Underwater TV camera designed for use in inspection; has video tape device for keeping records ... Jan. 3 52

Tennessee Valley Authority

Construction spending for fiscal 1958 ... Jan. 24 46
What price power? Samuel Schaffer ... May 16 *
Terrell, Daniel V.—Engineering Dean to retire from Kentucky University ... Apr. 25 *91
Test tracks—Ford Co. new automobile test track near Romeo, Mich. ... May 23 (F) *56
Tornados see Wind Storms

Towers

Alloy-steel TV tower in Nashville, Tenn. collapses ... Feb. 14 *24
Baltimore—105 foot platform will top TV tower ... Feb. 28 *29
Funnel-shaped tank jacked to top of water tower in Swedish city ... May 16 *86
Nashville, Tenn. TV tower will be replaced ... June 6 25
Nashville, Tenn. tower collapse still a mystery ... Feb. 21 44
Navy plans sea tower near San Diego for experimental work ... June 6 30
New standard wind-load requirements. J. P. Thompson (map & tables) ... Feb. 14 (F) 33
Newark Airport—radar dome will cap control tower ... Apr. 1* 50
Quarry in Derbyshire, England, is test lab for towers ... Mar. 21 *61

Training

Alberta college starts post graduate instruction in highway engineering ... Apr. 25 29
Chain reaction. D. M. McCann ... Feb. 21 54
Engineering teachers. G. F. Kinney ... Mar. 14 6
Engineering teachers. Let the retired teach. J. R. McKinney ... Apr. 11 12
Industry ups merit awards for high school graduates ... May 9 32
On-job training started for N. C. state road engineers ... Nov. 22 32
Rx for engineer shortage. 2. Summer help. 2. Womanpower for engineering ... May 16 *42
Scholarships will promote interest in highway field ... Jan. 31 28
Summer jobs for students ... May 30 *32
Texas A&M earthmoving school resumes operation ... June 6 82
Traffic engineering course will be expanded at Yale ... Jan. 24 *
Two schemes urged to ease engineer shortage ... Jan. 3 27
Tramways see Cables and Cableways

Transportation

Brazil—politics halt Sao Paulo monorail ... Feb. 21 *21
Brussels, readying for World Fair, pushes traffic engineering, changes ... May 30 (F) *28
Chicago's south side test site for Speedwalk installation ... Mar. 28 *36
Mississippi Ports Authority suggested ... Apr. 25 134
Moving sidewalks. Dallas, Tex. Love Field—to airport with passenger appeal features moving walks ... Mar. 21 (F) *39
New York City—$100 million rail bypass called solution for traffic snarl ... May ... 4
People and traffic ... May 30 *32
Port of New York Authority seeks $84 million and commits $40 million for airports, tunnel, piers in N. Y. & N. J. ... Mar. 28 109
Potential cures for transit ills. Park then ride. Feeder system. New rapid transit lines. Elevated lines. June 6 *24
Rapid mass transit—a prime U. S. need ... June 6 (F) *23
Rapid transit boosted as answer to city congestion ... May 23 28
San Francisco—transit plus road equals metropolitan movement. June 27 (F) *33
Several states move to aid transportation lines ... June 13 29
Techniques and trends in transportation ... Feb. 21 (F) *86
U. S. money aids foreign transportation ... Mar. 7 61

Trusses

Long trusses provide working area for Douglas DC-8 jet transports ... May 9 (F) *33
Newark Airport's next hangar will have 140-ft cantilevered trusses ... Mar. 28 *26

Tunnels

Boston's Central artery—tunnelling over tunnel makes road job expensive ... May 16 (F) *62
Boston's John F. Fitzgerald Express Highway tunnel section cut with no interrupting utilities and traffic ... Jan. 10 (F) *36
Brussels—tunnels in the street will increase traffic capacities (map) ... May 30 (F) *28
California first way tunnels—metal roofing—(1st prices) ... Feb. 14 78
Colorado—controversial tunnel puts the spotlight on the problem of toll facilities in the interstate net ... Apr. 11 23
The English Channel tunnel ... June 6 e196
Giant rubber tubes, inflated, become liner form for tunnel ... Mar. 21 *66
Great Britain
Thames River tunnel work begins ... Apr. 18 88
Hampton Roads Bridge-Tunnel, Norfolk, Va.
Hurricane protection facing. M. N. Quade ... June 13 6
Holland
Building a tunnel under North Sea Canal ... Mar. 21 (F) *54
Honolulu
City-County cleared of liability in Kodau Tunnel deaths ... Mar. 28 25
$1-million saving offered on second parallel Kodau tunnel ... Feb. 7 26
India hails the opening of long tunnel link to Kashmir ... Jan. 24 174
Los Angeles—new shields speed tunneling through sand ... Apr. 4 *46
Milwaukee water main includes tunnel section (unit prices) ... Jan. 3 61
Missouri sanitary sewer includes tunnel section (unit prices) ... Apr. 4 114
Montana irrigation tunnel costs $152.50 per lin ft (unit prices) ... Feb. 21 249
Mont Blanc Tunnel—French Associate OK's participation in three-lane plan (map) ... Apr. 11 81
New Orleans
Delayed opening date set ... June 27 27
New York City
Lincoln Tunnel third tube—50% story, 600 record means cost ... May 30 (F) *21
Third Lincoln tube gets finishing touch ... May 16 *24
Norfolk bi-tube tunnel costs up $2 mil ... Mar. 28 104
Oahe Dam, S. D. flood control tunnel, the "Mole" comes through ... Apr. 18 *28
Oahe Dam power tubnels to be inverted siphons ... June 27 (F) *33
Peters, R. A. Grand Valley tunneling exploit to be seen again on Telesto soon ... Jan. 10 33
Pittsburgh two-tube highway tunnel opens ... Nov. 1 149
Pittsburgh's sewerage project. 24 miles of tunnel (map & table) ... Apr. 11 (F) *36
Switzerland—St. Gotthard Tunnel—Not for anniversary ... June 13 168
Trans-Bay diversion tunnel is virtually complete ... May 2 (F) *38
Virginia
Norfolk-Portsmouth tube is ready for construction ... June 20 32
West Delaware Tunnel, N. Y.—last week's work. Clancy O'Dell ... Feb. 7 26
West Delaware Tunnel bids ... May 2 28
Turbines: Bigger turbine takes less space per kw ... Apr. *56

U

Ultrasonics: Pressures by shock waves from missiles flying at supersonic speed are low enough to cause structural damage, AF officer says ... Apr. 4 28
Underwood, Walter W.—Named executive director for NCMA ... May 30 *52
Unit Prices ... Jan. 3 61, Jan. 10 *56, Jan. 17 82, Jan. 24 219, Jan. 31 61, Feb. 7 100, Feb. 14 78, Feb. 21 240, Feb. 28 72, Mar. 7 100, Mar. 14 88, Mar. 21 128, Mar. 28 *8, Apr. 4 134, Apr. 11 116, Apr. 18 324, Apr. 25 162, May 2 78, May 9 116, May 16 139, May 23 90, May 30 82, June 6 128, June 13 113, June 20 169, June 27 106
U. S. Air Force—USAF engineers—a few handle billions ... May 2 (F) *46
U. S. Army Corps of Engineers
Federal construction projects selected at $497 million ... Jan. 24 46
General Bertram to leave Engineers ... June 20 *99
U. S. Bureau of Public Roads
Line up—key men in BPR's new setup ... June 6 *30
Program library planned. Mar. 14 (F) 24
Suggested an "anti-negating" clause in road department — consultant contracts ... Apr. 25 (F) 25
U. S. Bureau of Reclamation—Federal construction spending for fiscal year 1958 ... Jan. 24 46
U. S. Navy: Contracts double in Texas and Louisiana ... Mar. 21 27
Utah Construction Co.—One firm's formula for success: Diversification. Barbara Lamb ... Apr. 11 (F) *34

V

Veatch, Tom—Consulting firm's growth and a new office building. May 30 (F) *52
Ventilation see Heating and Ventilating
Vibrations — Sonic-boom damage — only glass breakage is likely, AF officer says ... Apr. 25 28

W

Walls

Aluminum curtain wall for New York office building ... June 6 *30
Colored porcelain-enameled steel panels for standardized schoolhouse ... Feb. 28 (F) *96
Concrete wall 350 ft high honors Portuguese explorer ... Jan. 24 *179
From piles of masonry to slim metal and glass shafts—big changes in buildings over last 100 years ... May 23 (F) *33
Knee braces stiffen office building walls ... May 9 *26
Museum to be built by National Park Service near Vernal, Utah, will have bones of dinosaurs as one wall ... Feb. 14 23
Pittsburgh office building a showcase for steel curtain walls. Feb. 28 (F) *49
Too much fresh air. Correction ... May 9 12
Postab dormitory walls have built-in furniture ... Mar. 28 30
Warehouse walls made of four materials at Franklin Park, Ill. ... Mar. 21 *72

Warehouses

Four-story warehouse journeys half mile to new site ... June 27 (F) *72
Franklin Park, Ill. warehouse walls made of four materials ... Mar. 21 *42
On-site prestressing plant for Los Angeles warehouse cuts concrete cracking cost. H. R. Reuter ... Apr. 18 (F) *38
Sacramento, Calif.—precasting 35 acres of roof panels ... May 30 (F) *42
Washington: Maj. Gen. Lee B. USAF engineers do a big job ... May 2 (F) *46

Wastes, Industrial

Bound Brook, N. J. activated sludge plant will serve towns, too ... Apr. 4 27
Corpus Christi, Tex.—two plants turn sludge to fertilizer with rotary dryers ... June 24 (F) *62
Pickle liquor treatment recovers 50% of spent acid ... Jan. 24 208
Shell Oil Refinery spares the Mississippi its wastes. Russell & Axon Stabler ... May 30 (F) *59

Water Mains

Connecticut water main bids show widespread unit prices ... June 13 113
Illinois water system draws twelve bidders (unit prices) ... Apr. 25 102
Louisiana water line with stream crossings (unit prices) ... May 16 119
Maine water line with section through swamp (unit prices) ... May 9 83
Maryland water main extension (unit prices) ... Mar. 28 89
Milwaukee water main includes tunnel section (unit prices) ... Jan. 3 61
Oregon water line takes alternate bids (unit prices) ... May 23 90
Philadelphia water main 28% below estimate (unit prices) ... Mar. 21 128
Prestressed concrete pipe for water main, Virginia (unit prices) ... Jan. 31 61

Water Pollution

Award goes for studies on stream reaeration ... May 9 83

* Illustrated. e, editorials. (F) Articles over a page

Delaware River tide motorboats check tide to get fix on river's sanitary and chemical qualities ..... Mar 28 28
Federal aid for sewage plant criticized. Where to draw the line ..... Feb 14 c124
Gallipolis, Ohio, forced to organize to get needed sewage works ..... Apr 11 23
Gallipolis, Ohio, pressured on pollution ..... Mar 7 26
Long Island Blue Point oyster has returned—thanks to pollut.-control measures of duck farms, feeding and a hurricane ..... Mar 28 (F) *33
Machine samples water each hour for a week ..... Nov 6 (F) *60
New York City promises $22 million yearly to curb pollution ..... Mar 21 172
Ohio's pollution fight—industry, central board make clean-up headway ..... June 6 28
R. I. stat. pollution control agency. Coastal study activated studies begun at Broad Brook, N. Y. ..... Apr 4 27
San Francisco Bay cities on the threshold of winning the pollution battle ..... Jan 2 23
Sewerage grants escape budget cutters (Editor) ..... Apr. 11 24
Shell Oil Refinery at Wood River, Ill. serves the Mississippi—its wastes. Russell & Weaver (Letter) ..... May 30 (F) 139
Water Pollut. ... see also Wastes, Industrial

Water Resources

California and Oregon governors sign bills to settle the Klamath River Basin Compact ..... May 16 24
California water development program brought up short ..... June 20 24
Campaign to explode cheap water on the east ..... June 13 29
Conflicting demands for water exists in humid as well as arid areas. S. E. Morris ..... June 6 (F) 57
Federal, state or both? ..... Feb 14 c124
Florida, Indiana and North Carolina study water ..... Jan 21 26
New Jersey water plan for Raritan River revealed (map) ..... May 23 26
N. Y. study group asks state to unravel water agencies ..... Jan 2 27
Ohio conference hears call for bold, expensive action ..... Jan 2 26
Private vs. public power. Ben Moreell ..... June 27 8
Soil Conservation Service breaks into the big time ..... Apr 4 (F) *21
States face up to water rights problem (map) ..... May 9 (F) 23
States face up to water rights problem—Water rights data, Don Lane ..... June 13 14
Water state records. Effective devices ..... June 13 *86

Water Rights

Basin compacts in the West ..... May 16 24
Missouri River dilemma ..... June 13 c192
States face up to water rights problem (map) ..... May 9 (F) 23
States face up to water rights problem—Water rights data, Don Lane ..... June 13 14
Water state records. Effective devices ..... June 13 *86

Water Supply

Amat the Tex. well field can store more than 10,000 acre-ft of water. Feb. 14 on AWWA delves into politics at Atlanta City meeting ..... May 23 (F) 26
Better water with floating pump house on the Cumberland River near Nashville, Tenn. ..... June 13 (F) *85
California water development program brought up short ..... June 20 24
Chanute, Kan. revises its sewage-during water emergency ..... June 20 26
Chicago builds biggest filtration plant at S. Salter ..... June 27 (F) *49
Chicago waterworks chief reports on development ..... Apr 25 84
Chicago's filtration plant substructure goes at $10 million ..... Mar 7 *26
Cleveland plan's different due to large industrial feed (map & table) ..... Feb 28 *
Conflicting demands for water exists in humid as well as arid areas. S. E. Morris ..... June 6 (F) 57
Demands must be met by united efforts, AWWA told ..... Feb 14 29
Denver, Colo. lifts watering restrictions for first time in 3 years ..... June 27 29
Detroit water supply—situation remains unresolved ..... Apr 4 24
El Centro, Calif. water plant features automatic control ..... May 23 (F) *51
Fair with flouridation. A. C. Ford ..... Apr 18 12
Florida, Indiana and North Carolina study water ..... Jan 21 26
Fresh water from salt ..... Mar 21 c192
Fresh water from salt at $.42 per 1,000 gallons via electric membrane process (charts) ..... Feb. 14 59
Hexadecenal film used to cut evaporation losses in Australia ..... Mar 21 c90
Hexadecenal, or cetyl alkohol film to show evaporation is slated for more tests ..... Apr 25 84
Illinois water system draws twelve jobbers can't please ..... Apr 25 102
L. A. studies feasibility of salt water barriers and grounds for declaring systems to protect groundwater quality ..... May 2 24
Michigan legislature is supposed to find what's needed to save the lakes ..... Mar 28 112
New Jersey state water plan (map) ..... Raritan River ..... May 23 26
New Orleans, Columbia, S. C. and Tacoma, Wash. get results of water studies ..... Mar 28 30
New York's Hudson River pumping plant—No more water needed? ..... Jan 21 c96
North Carolina—Piedmont region water plan needs sewage need (map) ..... May 16 30
Ohio conference on natural resources hears call for bold, expensive action ..... Jan 24 36
Oklahoma City combination water supply-navigation canal would "flow" uphill (map) ..... Apr 11 27
Philadelphia water agency pushes electrones, research ..... June 27 34
Pipeline to Huron gets to final plan stage ..... June 27 28
Platte Valley PD&ID, Neb., constructing unique gravel trap to remove threat to siphon ..... June 27 *104
Roofs supply water for plant heat. Chicago ..... May 16 *71
Salt River Valley can gather on additional 285,000 acre-ft a year by changed management of watershed ..... Jan 10 39
San Diego County, Calif., is storing water underground for use during dry periods ..... Mar 28 79
Seattle's second source land swap clears way for development. May 30 29
Sewage reuse urged as water saving ..... Apr 11 *33
Soil Conservation Service is rejuvenated, breaks into the big time ..... Apr 4 (F) *21
Techniques and trends in water supply and sanitation ..... Feb. 21 (F) *190
Texas floods ease water plight. May 9 *29
Texas lawmakers approve $20m bond vote for water conservation ..... June 13 166
Tolt River water supply project, Seattle, Wash.—pre-bid conference called to contact sites ..... June 27 70
Too cheap water—grass roots publicity campaign gets under way. June 13 29
Water policies need push ..... May 16 c192
Water policy statements issued by AWWA and EJC ..... May 2 25
What to do about a 10-year drought? ..... Jan 24 (F) *43

Water Treatment

Army develops packaged water plant for purification ..... Mar 21 89
Award goes for studies on stream reaeration ..... May 9 85
Chicago builds biggest filtration plant G. S. Salter ..... June 27 (F) *49
Chicago's filtration plant—substructure goes at $10 million ..... Mar 7 *26
Chicago waterworks chief reports on development ..... Apr 25 84
Dissolver for fluorspar lowers fluoridation cost ..... Mar 7 88
El Centro, Calif., 15 mgd water treatment plant incorporates a high degree of automatic control ..... May 23 (F) *51
Fair with flouridation. A. C. Ford ..... Apr 18 12
Flouridation is still a running battle ..... Mar 14 25
Fresh water from salt ..... Mar 21 c192
Fresh water from salt at $.42 per 1,000 gallons via electric membrane process (charts) ..... Feb. 14 59
Fresh water from salt at $.42 per 1,000 gallons via electric membrane process. Salt water W.A. Wells ..... Mar 14 8
Fumbling with flouridation—A flouridation for Ferdinand Bachl ..... Jan 24 14
Fumbling with flouridation—Another flouridation for William Chauvenet ..... Jan 24 18

Waterways

Apalachicola River—a multipurpose river system is born (map) ..... Mar 14 (F) *28
Diversions from Lake Michigan ..... Jan 10 c124
Columbia River navigation believed to be more important than power ..... Jan 10 27
Great Lakes dredging—lake links start getting seaway depth (map) ..... June 6 *81
Missouri River—navigation set back six weeks because of short water supply ..... Mar 28 27
North Carolina State Waterway commission proposed ..... Feb 28 29
Rivers turned out on assembly line basis at Jackson, Miss. Waterways Experiment Station ..... May 16 (F) *34
St. Lawrence Seaway
ASCE hears Seaway story told in part at Buffalo convention ..... June 13 (F) *25
Cote Ste. Catherine lock contractor stays ahead (map) ..... Feb 28 (F) *33
Excavation a new bobbet's nightmare (map) ..... June 13 31
No dredging until needed ..... Jan 10 c124
St. Lawrence bites ..... June 13 c192
Summer trip suggestion ..... June 27 c186
U. S. part of work is at 30% completion mark ..... Mar 28 27
Why the Seaway needs $35 million more ..... Apr 18 32
Tennessee-Tombigbee waterway may be financed by Alabama, Mississippi ..... Apr 4 114
Upper Mississippi River lock at Keokuk Dam, Iowa will eliminate serious bottleneck to traffic ..... Apr 4 *28
Waitstein, David—Named structural Chief at Standards Bureau ..... Feb 28 *67
Weather—New York Thruway weather drops tons of rock on Thruway. Feb 28 *28
Texas maps save the statistical probabilities of rain ..... Apr 4 31
Weeds—Vegetation control of Missouri River levee riprap through use of weed killer called Feivar ..... Apr 25 *88

Welding

All welded bridges survey reveals that 22 state weld bridges ..... Jan 10 *28
Texas takes welded girder span record ..... Jan 24 *48
World's tallest welded building in Ft. Worth, Texas. F. S. Adams ..... May 2 (F) *44
Wellborn, Arvin S.—Asphalt engineer ..... Feb 28 *66
Wellpoints—Harlem Hospital, N. Y. pumps and weight keep hospital out of hot water ..... June 20 (F) *46
Wells—L. A. looks further into well recharge (map) ..... May 2 24

Wharves and Docks

Africa—concrete-block deepwater quay in the Belgian Congo sets height record ..... Mar 7 64
Baltimore—B & O starts construction of $4 million fruit pier ..... Apr 25 29
Baltimore, Md.—$100-million port work advised ..... June 20 31
Brooklyn waterfront to get fourth new pier ..... Mar 7 33
Chesapeake and Ohio Railway plans $2 million dock for Toledo coal handling ..... June 20 24
Erie, Pa. picks site for new lake port development ..... June 6 32
Houston, Tex.—$1.2 million awarded on steel bulkhead—Correction. Laxenbourg steel in Houston Wharf ..... Jan 17 57
Philadelphia, Pa. wooden wharf at Hog Island converted into a reinforced concrete structure capable to handle the biggest tankers (map) ..... May 9 (F) *34
Rota—key to U. S. bases in Spain. H. W. Hunt (map) ..... Mar 14 (F) *43
San Francisco—big pipe caissons go 135 feet down to support wharf at the Naval Shipyard ..... June 6 (F) *81
Seattle pier apron rebuilt (unit process) ..... June 20 109
Seven waterfront areas are keys in a spectacular drive aimed to keep New York port on top (map) ..... June 6 (F) *66
Williamson, Dean Merritt A.—Will direct Pennsylvania agency ..... Feb 28 25

Windstorms

Dallas, Tex.—tornado comes close to business area ..... Apr 11 25
Hurricane protection timing. M. N. Quade ..... Jan 10 6
Kansas City tornado disasters. May 30 *25
Pennsylvania bridges destroyed by hurricane two years ago will be repaired by summer ..... Apr 4 28
Toledo—windstorms speeds up expressway plans ..... May 16 *28
Wind Tunnels. Forms advance on rolling rig. Neil Clark ..... Apr 11 *87

Windows

FHA adopts the standards for aluminum window makers ..... Jan 24 48
Pittsburgh office building enclosed with sandwich panels, pivoted windows are included in panels. Feb 28 (F) *19
Too much fresh air. Correction ..... May 9 12
Wellman, Abel—Engineer extraordinary. Howard Jacoby ..... May 9 (F) *87

Wood

Biggest timber-framed dome ever built supports the roof of Montana State College's field house ..... Jan 10 (F) 32
Glulam timber cantilevers support arena roof ..... Jan 3 (F) *45
Jackets of creosoted wood protect concrete piles. R. H. Mann ..... Feb 14 (F) *41

* Illustrated; e, editorials. (F) Articles over a page

AUTHOR INDEX

Adams, Frederick S.—World's tallest welded building ..... May 2 *44
Anderson, Boyd G.—Which holds the record? ..... May 9 12
Bachl, Ferdinand—A fluoridation foe ..... Jan 24 14
Balog, Louis—AISC code is arbitrary ..... June 20 10
Code remiss on web steel ..... Feb 21 20
Barnett, Davis P.—Ancient building rebuilt to house Greek museum ..... Mar 14 *76
Barry, P.—Wrong railroad ..... Apr 11 10
Bark, Robert A.—Subcontractor bond? ..... June 20 8
Bentley, A. L. Jr.—Open caissons go under air at 85 feet ..... Mar 28 *63
Berger, Seymour—Estimating is for pros ..... June 27 6
Berkowitz, Melvin—Cheap runway extension? ..... Apr 4 10
Bilderbeck, G. L.—Recalls 1915 precast job ..... Mar 7 9
Blue, James E.—Value of "or equal" clause ..... June 20 8
Bowers, Nathan A.—Rainfall histories from tree rings? ..... Mar 7 *53
Boyman, Waldo G.—Build-up for better Trans-Arctic bases ..... Feb 7 *30
Umbrellas over Mexico City's new buildings ..... May 16 *36
Bradley, B. H.—An architect's view of plastics ..... June 20 18
Brown, A. J. & Wayne Teng—How foundations for the Air Force Academy were designed ..... Apr 18 *50
Brown, Arthur W.—Bigger than in Texas ..... Apr 4 10
Callaghan, J. Joseph—Ponte Santa Trinita ..... Jan 31 10
Chauvenet, William—Another fluoridation foe ..... Jan 24 18
Chopra, M. R.—Faster concreting at Bhakra ..... Apr 25 11
Clark, Neil—Wind tunnel forms advance on rolling rig ..... Apr 11 *87
Claussen, Glen O.—Specifications corrected ..... June 6 10
Cole, D. W.—Who's right? ..... May 2 10
Connolly, D. E.—Service "professionals" ..... June 6 9
Connor, Neil A.—Laterals now, trunks later ..... Feb 28 10
Cook, Richard C.—Job-freeze abhorred ..... May 30 10
Cunliff, William H.—A contractor's view of plastics ..... June 20 59
DeLaHunt, R. J.—Rail pile information is delivered ..... Feb 21 *8
Dingman, Daniel B.—Savings questioned ..... May 30 12
Dlouhy, Francis N.—Stresses in dams ..... Apr 25 11
Dotterer, J. R.—Longer anchor bolts ..... Mar 21 16
Dunmire, E. Herbert—Old friends ..... Jan 17 10
Endersby, V. A.—Asphalt sturdier ..... Jan 24 8
Ford, Arthur C.—Fair with fluoridation ..... Apr 18 12
Fox, Arthur J. Jr.—Who's right about winter concreting? ..... Mar 7 *23
Frazier, Charles H.—Philadelphia parking plans ..... Mar 28 10
Geyer, G. E.—Surveyors are engineers ..... May 16 10
Goodkind, Donald R.—Deeper rolled beams needed ..... Jan 3 6
Grady, William J.—What's different about building atomic power plants? ..... Feb 14 *43
Graves, James R.—Rubber seats for prestressed beams ..... May 16 *67
Greene, Leroy F.—Money isn't everything ..... Mar 21 14
Griffin, C. W.—Anti-anti-pirating ..... May 23 8
Gudgeon, Donald K.—Some intriguing questions ..... Mar 28 16
Guillard, E.—No steel saved ..... May 16 12
Hadley, Homer M.—Seattle bridge questioned ..... Apr 4 10
Heatley, James J.—How do electronic scales stack up? ..... June 20 39
Hogg, Ralph H.—Takes professionals to task ..... May 16 8
Holmes, W. H.—How do U. S. Swiss designs compare? ..... Mar 28 *32
Howard, John T.—The highway planners ..... June 6 10
Huncke, L. W.—Rail pile information is requested ..... Feb 21 *8
Hunt, Hal W.—Rota Key to U. S. bases in Spain ..... Mar 14 *51
Hyland, George N.—Wind standard unimproved ..... June 13 8
Jackson, A. R.—The "so-called" shotline ..... Feb 7 10
Jacoby, Howard—Abel Wolman engineer extraordinary ..... May 9 *87
Karl, William W.—Skyscraper built with shale ..... Jan 3 6
Kimber, George F.—Engineering teachers ..... Mar 14 6
Kneding, John G.—Public relations ..... May 9 10
Krepchin, J. H.—Share this complaint ..... Feb 28 10
Krylow, J. E. K.—Dimensions interchanged ..... Feb 14 10
Kusner, L.—Discharge valves operated electrically ..... Apr 4 *59
Labonn, J. F.—Source liked story ..... May 16 10
Lamb, Barbara—One firm's formula for success: diversification ..... Apr 11 *24
Lane, Don—Water rights data ..... June 6 14
Lee, Donovan H.—Failures at inflection points ..... June 27 8
Lee, H. K.—Anchor bolts are problem ..... May 30 *10
Lepkaluk, Myron—Credit omitted ..... Mar. 21 10
Lin, T. Y.—Plant fabrication preferred ..... June 13 8
Lincoln, Frank L.—Fly-ash data supplied ..... Feb 14 14
Mann, Ralph H.—Jackets of creosoted wood protect concrete piles ..... Feb. 14 *41
Mayper, Victor—Wrong consultant named ..... Jan. 3 12
Mays, William J.—Drinking fountains ..... Apr. 11 *87
McCann, Dewey M.—Chain reaction ..... Feb. 28 14
McClellan, L. N.—Why quit when it's cold? ..... Apr. 18 8
McKinney, Jack R.—Let the retired teach ..... Apr. 11 12
McLean, Harry H.—Producing 8,000 cu yd of concrete a day ..... May 9 *47
Merritt, Frederick S.—How to design steel by the plastic theory ..... Apr. 4 38
Morrell, Ben—Private vs. public power ..... June 27 6
Morris, I. E.—Inflection-point stresses ..... Jan. 3 6
Morris, Samuel B.—Conflicting demands for water ..... June 6 57
Morse, William Clifford—About winter concreting ..... May 2 10
Mumper, I. F.—Deck structure fault ..... June 20 8
O'Dell, Clancy—A good week's work ..... Feb. 7 10
O'Leary, Neil—Credit omitted ..... June 6 14
Orente, Rose—Book price corrected ..... Feb. 28 14
Pennington, Paul—Spandrels of circular arcs ..... Feb. 21 *24
Posey, C. J.—Help high school teachers ..... Mar. 21 14
Powell, Harry R.—Frozen personnel ..... June 6 9
Quade, M. N.—Hurricane protection timing ..... Jan. 10 6
Reuter, Herman R.—On-site prestressing plant cuts concrete building cost ..... Apr. 18 *58
Richards, Arthur—How engineers' salaries have changed and why ..... June 6 16
Roscoe, George B.—Facts wrong ..... May 16 15
Roy, Joseph A.—One reader's opinions ..... Jan. 10 8
Rubin, Murray—How is shear distributed? ..... May 23 *8
Russell, G. S. & F. E. Wenger—Oil refinery spares the Mississippi its wastes ..... May 30 *39
Saengruchi, Udom—Changing exchange rate ..... Apr. 11 10
Saffir, Herbert S.—Revised shape factors ..... Apr. 4 10
Salter, George S.—Chicago builds biggest filtration plant ..... June 27 *19
Schoetz, Frank B.—Old friends ..... Jan. 17 10
Schiffer, Samuel—What price power? ..... May 16 8
Sechrist, W. C.—Shortage of engineers? ..... Feb. 14 15
Smith, Wayne J.—Electric heating cuts asphalt plant costs ..... Jan. 17 *67
Spressman, Matthew—Bad alternates impractical ..... June 13 8
Steiner, Frank D.—Rolled-beam depths ..... Feb. 7 8
Watershed treatment ..... Feb. 21 20
Stevens, D. E.—Bridges built fast on new turnpike ..... Jan. 3 *32
Teng, Wayne & A. J. Brown—How foundations for the Air Force Academy were designed ..... Apr. 18 *50
Thalheimer, G. R.—Welded girders in Europe ..... Feb. 7 8
Thompson, James P.—New standard wind-load requirements ..... Feb. 14 33
Reply to George N. Hyland ..... June 13 12
Tompkins, Francis M.—Highest rockfill? ..... Mar. 14 6
Wadleigh, George R.—Why public power? ..... Mar. 28 8
Walker, Harold S.—Wrong railroad ..... Apr. 11 10
Waters, A. R.—Concrete, not cement ..... Jan. 17 10
Wecker, W. A.—Adequate cement supplies ..... Jan. 31 9
Wegner, Frederick E.—Laterals now, trunks later ..... Mar. 28 8
Weir, W. Victor—Salt water ..... Mar. 14 8
Wenger, F. E. & G. S. Russell—Oil refinery spares the Mississippi its wastes ..... May 30 *39
Wenzel, William J.—Already unanimous—almost ..... Jan. 17 10
Werbin, I. V.—Legal decisions ..... Jan. 10-75, Jan. 24-182, Feb. 7-96, Mar. 7-91, Mar. 21-109, Mar. 28-86, Apr. 4-101, Apr. 11-105, Apr. 18-111, Apr. 25-99, May 2-77, May 9-101, May 16-114, May 34-69, June 6-115 ..... June 13 58
White, William A.—On upgrading technicians ..... Mar. 7 9
Whitney, Charles S.—Name added ..... May 16 10
Williams, Sir Owen—Tay Bridge probers wrong ..... Mar. 21 10
Wolf, Erik W.—Building frame is also test rack for aircraft ..... Apr. 25 *36
Wright, Prof. D. T.—Plastic design is used successfully ..... Apr. 11 *59
Wuerpel, C. E.—Fly-ash data needed ..... Feb. 14 10
Yates, Francis G.—Shortage at a price? ..... Jan. 10 6
Zweig, Alfred—More height without raising the roof ..... May 2 *10

* Illustrated; e, editorials; (E) Articles over a page